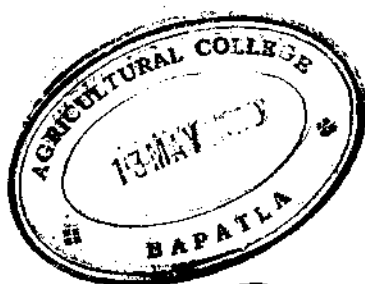


*Birds in a  
Garden Sanctuary*

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Plate I.

GREAT TIT (*Ickenham*)

*Frontispiece.*

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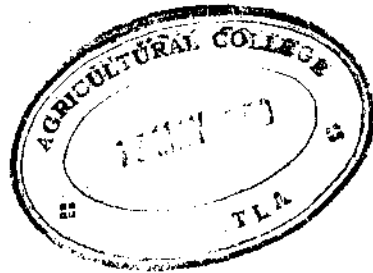
# BIRDS IN A GARDEN SANCTUARY

By

C. PERCIVAL STAPLES

*With thirty-one illustrations from  
actual photographs taken  
by the Author*

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*To*  
LILIAS LINDSAY STAPLES  
TO WHOSE PATIENCE THIS BOOK OWES  
ITS COMPLETION





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## FOREWORD

BY

C. PERCIVAL STAPLES

*Chairman of Council—Selborne Society*

THIS work endeavours to satisfy the demand for a book which explains in a simple and practical manner why and how the ordinary birds in our countryside and gardens should be protected. It is our hope that it will also prove instrumental in pointing a way in which the increasing and welcome interest now being shown in wild birds can find practical expression.

For so many of us neither the time nor the opportunity can be found for travelling far afield in search of birds to study and admire. Yet, by applying the simple principles and creating the conditions that are described in the earlier chapters of this book, we can avoid the necessity for travelling, for the birds will come to us, and in increasing numbers.

In the later chapters the habits of thirty-six of our commoner birds are dealt with in the light of their reactions and requirements under sanctuary conditions. Wherever possible special emphasis is laid on such particular measures as are essential for their attraction to gardens and to induce them to breed there.

The majority of the original illustrations have been obtained either in our own garden sanctuary or in the Brent Valley Sanctuary of the Selborne Society, and have been specially chosen to show what can be done towards protecting and increasing our useful birds.

‘HEDGEROWS,’

ICKENHAM.

*February, 1945.*



# BIRDS IN A GARDEN SANCTUARY

## CHAPTER I

### THE NEED FOR BIRD SANCTUARIES

It is essential that we should preserve our wild birds. The fact that we have inherited a bird population of singular density and variety is no justification for assuming that it will continue to flourish unaided. It is true that we are a nation of inherent bird-lovers as a result of our familiarity and constant association with so many birds, particularly small singing birds, but our affection for them is mainly inactive. We accept their abundance and ubiquity as natural incidents of our countryside and take their presence for granted in much the same manner as we do our lanes and hedgerows.

Although for one reason or another birds may appeal to the majority of us, we tacitly expect their survival while remaining insensible to their needs and but vaguely conscious of their value. That we should adopt active steps for their protection or that special measures are necessary is seldom contemplated or is dismissed as mere sentiment.

Why have we so many birds, and why should we preserve them?

Broadly we owe the richness of our avian life primarily to our profuse and varied vegetation, which in its turn has resulted from our island heritage of a moist and equable climate. We are fortunate, too, in our geographical position, for our islands lie athwart the main stream of summer migrant birds that pass and re-pass annually along

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the western sea-board of Europe. It is not surprising that so many of these, attracted by the congenial conditions our country offers, remain as summer residents at a time when the surge of insect life is at its zenith and the need for its restriction greatest.

The chief utility of birds lies in their insecticidal capacity. If it were not for the unrelenting war that is waged by the majority of terrestrial birds against insect life, our herbage, undergrowth, and trees, would become sparse and defoliated. It has been claimed that were birds completely to disappear the higher types of plants would perish within a few years. Nor should we forget that the seed-eating and carnivorous species of birds are also of assistance. Besides becoming partly insectivorous during the summer months, the seed-eating birds limit the growth of rampant weeds, such as plantains, ragworts, docks, and thistles, which, if their fecundity were unchecked, would choke and oust the finer plants and grasses. Carnivorous birds also assist our ground vegetation by their unrivalled destruction of rodents, whose depredations to growing and harvested crops cause us a far greater loss financially than any other form of wild life.

It is in the economic rather than the aesthetic or sentimental aspect that the main motive for bird protection lies. The useful and continuous service performed by birds for the benefit of tree and plant life, which is conferred indiscriminately upon both the wild and the cultivated forms, is too frequently disregarded or unrecognized.

It has been computed that one pair of Blue Tits will annually consume two million caterpillars and grubs as well as countless eggs of insects too minute to allow of accurate assessment. One cannot watch a pair of Willow Warblers or Spotted Flycatchers, or indeed any of our migrant summer visitors, without being astounded at the quantity of small invertebrates that are destroyed by their energies. Throughout the daylight hours a steady toll

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is exacted which increases enormously when there are nestlings to be reared. In addition, the predatory birds, day and night, destroy innumerable rats, mice, and voles. A pair of Barn Owls has been observed to carry twenty-seven rodents to their nestlings in one night, and in just over two hundred pellets cast by a Tawny Owl the remains of some four hundred rodents as well as other injurious creatures were found.

A bird consumes its own weight in food daily. The more active the bird the more the fuel that is required to stoke the fires of energy. Translated into terms of insects, rodents, and seeds of weeds, the daily consumption is enormous, and the potential capacity of birds as pest destroyers an asset of supreme national importance.

During our lifetime the face of our countryside has changed. Unco-ordinated building, producing suburban dormitories often with large tracts of waste and sterile ground between, consisting of dumps of excavated soil, patches of coarse weeds, uncleared ditches and debased undergrowth, and the elimination of trees, copses, and hedgerows, have not only driven away small bird life but have actively encouraged the increase of rodents and weeds, flies, and other harmful insects. These flourish unchecked, while the small insectivorous species of birds, which can ill be spared, have suffered most of all.

In the days of our grandparents, when insecticides were rare and birds in gardens common, the crops were healthy and abundantly sufficient. Now we have to resort to spraying and other costly and doubtfully efficient forms of chemical restraint in our efforts to check insect infestation.

Quite apart from the effects of housing and industrial development, there are other facets of modern progress that have adversely affected the birds. The motor-car exacts an appalling toll of birds on the road; telegraph wires and overhead cables are death-traps to birds in flight, especially when on night migration; modern scientific

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farming cuts down and grubs up hedges; and the re-afforestation of our stripped woods with sombre conifers appeals to few wild creatures.

A prolific bird life has in the past proved an asset of enduring utility to the nation, but is now in process of being destroyed. Its loss, from an economic point of view, will ultimately prove of far-reaching effect. What can be done to prevent or mitigate it?

The only practical solution is the creation of many small properly conducted sanctuaries, particularly in and around built-up areas, where birds can enjoy that privacy and security without which they will not breed.

While nature reserves and 'green belts' serve a useful purpose in retaining parts of the countryside in their natural states, they are of little use as bird sanctuaries because access is free and unrestricted, and as the education of the public has not yet extended to an appreciation of the need for and the needs of birds, the provision of nesting-boxes and other aids to, and for the attraction of, birds in such areas would prove useless—on the contrary, they would doubtless prove magnets for the destructive faculty of the small boy and others.

The 'Gilbert White Memorial Sanctuary' of the Selborne Society at Perivale in Middlesex now lies within a built-up area and continues to attract thirty-seven regular breeding species, while another eleven species are occasional breeders and forty species are non-breeding visitors. It shows that Spotted Flycatchers, Green, Great, and Lesser Spotted Woodpeckers, Nuthatches, Wrynecks, Tree Creepers, five kinds of Titmice and six kinds of Warblers, as well as other interesting and useful species, can be induced to remain, breed, and even increase their numbers in a built-up area.

This sanctuary was the first known attempt of any Society to establish a properly protected reserve for the ordinary birds of the countryside. It was founded in





Plate 2.

GREAT TIT—SELBORNE NEST BOX (*Perivale*)

[p. 4.]



Plate 3.

TREE STUMP NEST BOX (*Ickenham*)

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1904 and has thus continued to be successful for forty years. It has set an example which has been followed by public bodies and private persons both here and abroad, while the results of its experiments in the types and uses of nesting-boxes have been universally applied. It shows without question that the development of an area does not adversely affect the species of birds resorting thereto so long as some part of that area is retained in a condition, under constant supervision and privacy, suitable for bird life. It also proves that a sanctuary is better for being small and compact, easily kept, and readily maintained, from which it follows that many small reserves scattered evenly over the country would serve a far more useful purpose than a few of large area widely dispersed and difficult to guard and maintain efficiently.

If, therefore, birds will remain and breed in built-up areas, and prefer the type of habitat prevailing around them, is there any reason why we cannot use our gardens and private woodlands as sanctuaries for the birds resorting to them? Actually there is not. Birds can there enjoy the paramount requirements of seclusion and safety and such nesting accommodation as is made available by the ingenuity of the owner.

Many may dismiss the idea of using their gardens and pleasure grounds as bird sanctuaries under the mistaken impression that they are unsuitable. There are very many gardens, some quite ordinary suburban plots, whose size, type, or position, can be made attractive to wild birds by the addition of nesting-boxes, nesting-trays and other adventitious aids. A pair of Titmice breeding in a nest-box forms a nucleus which is an asset. Where one species is attracted, others will surely follow and every attempt, however slight, to redress the balance of nature is worthy of consideration.

That the time is now opportune for the establishment of sanctuaries is not only evidenced by the pace of modern

#### BIRDS IN A GARDEN SANCTUARY

development and the need for the active preservation of our wild birds on economic grounds, but also by the fact that there has been a noticeable extension of interest in birds among all classes of the community. Paradoxically, this resurgence has coincided with the period of unprecedented development of urban areas, which has of itself proved detrimental to the survival of many wild creatures.

Those of us who possess gardens, real gardens, may count ourselves doubly fortunate. We can at least interest ourselves and assist in the preservation of our wonderful bird life at a time when there is need for more active measures.

## CHAPTER II

### THE VALUE OF BIRDS IN A GARDEN

IN advocating the creation of a bird sanctuary in a garden we realize that we are treading on controversial ground in that most birds are viewed by the majority of gardeners with suspicion and their value in a garden has long been a bone of contention between ornithologists, whose job it is to observe, and gardeners, whose ambition it is to produce.

The generalization that birds are injurious to crops is popularly accepted as a matter of course, and a bird, of no matter what species or feeding habits, on a seed bed or among the fruit trees is forthwith regarded as harmful. There is a tendency to credit birds with an inherent and malevolent desire to seek out and injure whatever man may strive to cultivate. Yet, our waysides and woodlands continue, season after season, to sustain flowering and fruiting trees and abundant wild flowers, which subsist and flourish in association with wild birds.

When we break up the ground into a fine tilth, we take small notice of the influx of birds seeking insects and other creatures from the upturned soil. But immediately we sow seed in that tilth we assume an altogether exaggerated interest in their doings and claim, *a fortiori*, that they are there expressly for the purpose of devouring the seed, without regard to whether they are seed-eaters or not. All alike are accused of damage.

Nor are birds the only creatures whose services are misunderstood. The lowly earthworm is one of the most useful of garden creatures, for not only does it aerate the soil by its burrowings but also increases its fertility by its castings. These are humus forming and contain up to

#### BIRDS IN A GARDEN SANCTUARY

sevenfold more nitrates, phosphates, and potash than the soil from whence they came before passing through the worm's alimentary canal and receiving treatment within its body. The fertility of a soil can readily be assessed from the quantity and activity of the worms in it. Yet we applaud the destruction of worms by Robins, Thrushes, and Blackbirds. Even the humble worm does good, and the early bird that catches it performs a doubtful service. Conversely, disapproval of some birds is equally ill-founded.

In assessing the potentialities of birds for good or ill, the horticulturist should approach the matter with an open and unprejudiced mind, divorced from any preconceived notions, and with a due sense of his ignorance of the mechanism of natural economy and the inter-relationship of many creatures in the balance of life. Particularly should he remember that were it not for the destruction of insect life by birds, not necessarily in his own garden but universally performed, his and his country's vegetation would be meagre if it, in fact, persisted at all.

The foregoing does not seek to infer that the gardener is invariably wrong and that what the birds may do in a garden is always correct and beneficial. On the contrary, they are not all beneficial, all of the time; some are definitely harmful some of the time, and a few are harmful at all times.

Birds feed to live, they can do nothing else. Insectivorous species destroy insects in all stages of development dispassionately without discrimination between those useful, harmful, or indifferent to man's requirements. We judge insecticidal birds on their destruction of injurious kinds. We cannot assess the debit or credit balance which accrues by taking into account the beneficial insects they may also destroy. We can only assume that their greater mobility enables them to destroy more of other kinds than the beneficial insects do themselves. Useful insects, such as ladybirds, ichneumon flies, hover flies, and the majority

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of our native beetles, are prevalent only in such gardens as contain a superfluity of other insects. As soon as they have reduced the numbers of these or ensured their early demise by parasitically laying their eggs within the others' bodies, these beneficial insects pass on leaving a sufficiency in the form of a breeding nucleus of fodder insects to produce future generations. With birds the position is different. At the time of insect plenty, birds have settled their territories or nesting-sites and their incursions against insects are thorough and absolute, being dictated by necessity. There is no wandering feasting but a meticulous searching for and destruction of all invertebrates within their feeding areas. Similarly we praise the utility of seed-eating birds for curbing the spread of noxious weeds but we discount the harm they may do where weeds are cultivated commercially. Clover on a lawn is a weed, elsewhere it is a fodder plant.

Most of the good done by birds is unseen, while the harm or imagined injury inflicted, through being observed, assumes an altogether exaggerated importance. As a result it is difficult, fairly and impartially, to assess the case for or against any particular species of bird in so far as its effect on horticulture is concerned. Even in this limited sphere of a bird's activities it should be remembered that good may be done elsewhere in other branches of cultivation by one kind of bird to which an individual gardener may take exception as harmful to his own particular interests.

Many birds, such as Woodpeckers, Wrynecks, and Tree Creepers, while exceedingly useful outside horticulture, perform no active good in a garden.

As a measure of the potential value of each of the commoner species referred to in the following pages, it is proposed to allot a percentage assessment based on its capacity for harm, but even so the figure is based on one aspect only of the bird's feeding habits in relation to human

#### BIRDS IN A GARDEN SANCTUARY

endeavour and therefore is not conclusive as to its utility under all circumstances. A wholly injurious bird is assessed at 100, that is one hundred per cent. harmful; one which on balance is neither harmful nor beneficial, that does active good in one direction counterbalanced by active harm in another, is assessed at 50; while one that is wholly beneficial or completely unharmed is given a rating of 0. Proportionate ratings between these extremes give a ready means of comparison. Thus it can be inferred that any bird whose rating is below 50 is useful or neutral, while one whose rating is above 50 does, on the whole, more harm than good.

The only candidate for an assessment of 100 is the Wood Pigeon. No good word can be said for this bird. It is at all times and in all places overwhelmingly harmful. It has no redeeming feature. One is loath to regard any bird as an unmitigated pest, but facts must be faced. The Wood Pigeon is a greedy feeder, devouring large quantities of wheat, oats, barley, beans, rye, cabbage, turnip-tops, and roots, the buds of fruit trees and potatoes, the leaves of young cereals, beans, peas, and lettuce, and fruit in the form of cherries, currants, gooseberries, and raspberries. Its natural food also includes acorns, beechmast, haws, hips, holly-berries, and the seeds of coarse weeds, including goosegrass, wild mustard, dock, and chickweed. During the winter, greens suffer particularly from attacks by this bird, whose numbers are then greatly augmented by an influx of individuals from the continent.

Another serious pest is the House Sparrow. In its case a rating of 75 is reasonable. It is harmful in fruit plantations and cereal-growing districts as well as in the suburban garden. At harvest time town sparrows, like their human counterparts, seek a rural holiday and descend upon the fields in large flocks doing much damage. In spring these birds strip the buds from gooseberry and currant bushes, despoil the blooms of crocus and polyanthus, eat the young





Plate 4.

SPOTTED FLY-CATCHER (OPEN BOX) (*Perivale*)

[p. 10.



Plate 5. SPOTTED FLY-CATCHER'S NEST IN TRAY (*Ickenham*) p. 11.

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shoots of carnations and, throughout the growing season, pull up seedlings of all types. Their destructiveness seems to be without motive.

Aside from direct damage, House Sparrows cause an indirect loss by driving House Martins and Swallows from their nests and by annexing the nesting cavities of Tits. On the credit side, they feed their young largely on crane-flies, aphides, small caterpillars, and other plant pests, and subsist themselves to a large extent on insect fare while breeding. Rose tree aphides are a special attraction. They also confer a slight benefit by consuming the seeds of weeds. But an unfortunate habit is the disturbance of newly sown seed-beds. Initially the fine tilth attracts them as a dust-bath, but the ensuing disclosure of the seeds leads to their immediate consumption or being left uncovered to perish.

Undoubtedly the abnormal increase of the House Sparrow makes it a pest rather than a benefit to man. Were it less numerous especially in built-up areas there is a possibility that it would prove more useful. Its normal preference is for the seeds of dock, chickweed, dandelion, groundsel, charlock, coarse grasses, etc., but its artificial existence in the shelter of the towns and villages, its adaptability to circumstances, and its abnormal fecundity, lead to its autumnal forays in the countryside when extensive damage is done by threshing corn from the ear and attacking other forms of produce. The town-bred sparrow, too, lives on anything and everything it can pick up in streets and gardens, necessity overriding natural choice. The bird is permitted to increase too easily, partly through the pigheadedness of game preservers and farmers who have depleted our stocks of hawks, and partly because we take no proper steps to check its fecundity in and around towns whither it now repairs for breeding in the knowledge that it will be safer and find life less difficult than in rural areas.

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The surest and most humane method of checking the House Sparrow is to destroy its nest and eggs in and around dwellings. This involves no risk to other and useful birds. The formation, so often advocated, of Sparrow Clubs is not recommended for, through ignorance and faulty observation, a large proportion of useful birds are destroyed. The idiot with the gun will shoot any small bird on sight and the area becomes an *abattoir* for Robins, Hedge Sparrows, Wrens, Finches, Buntings, and Warblers, any one of which has more potential value than a dozen Sparrows.

The rarer and locally distributed Tree Sparrow is more of an insect eater than its relative. Being a woodland dweller and a cavity nester it is not a frequent visitor to gardens, except those situate near heavily timbered districts. Where it is common—it is inclined to nest in colonies—it can be a nuisance as its feeding habits are not much different from those of its town cousin. An assessment of 60 is a fair estimate of its utility.

The relative usefulness of the Starling varies according to the district and the numbers of the bird. Its adaptability has led it to change in some districts from a beneficial to a harmful species. The decline in crop farming has much to do with this. It has changed its feeding habits of late years. Whereas formerly its mainstay was wireworms (the larvae of the Click Beetle), leatherjackets (the larvae of the Crane-fly or Daddy-long-legs), the white and corpulent grubs of the Cockchafer, and other soil larvae, it has now turned to cereals and fruit. With the increased acreage now under the plough it will probably revert to its former usefulness and clear the newly tilled soil of various pests. Like the Rook it is an omnivorous feeder with insects predominating. Nestling Starlings have been found to receive 85 per cent. of their food in invertebrates. The help that Starlings provide in clearing a lawn of insect pests is apparent to everyone, as also is

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the fact that a flock of Starlings can soon denude a cherry tree of its crop. Having regard to its changeable feeding habits it would be best to fix an assessment of 50 and thus leave its existing value to horticulture undecided. In normal conditions it might merit a rating of 25.

Though, by reason of its gregariousness, the Rook is not a frequent visitor to small gardens, it sometimes combs a lawn for leatherjackets and wireworms. Its feeding habits, due no doubt to its association with the Starling when in flocks, have also undergone a change. Each of these species appears to have encroached on the food potential of the other with the result that they have both perforce turned to cultivated cereal crops as an easy augmentation of their natural food resources, and for this reason the Rook must share with the Starling a rating of 50.

Under normal conditions of mixed agriculture, however, the Rook is undoubtedly the farmer's friend, devouring enormous quantities of leatherjackets, wireworms, cockchafer grubs, and other soil pests. It is one of the few birds that probes for its food in the upper soil, where these larvae lie hidden up to a depth of 6 inches. The wireworms (whether the grub of *Agriotes lineatus sputator*, or *obscurus*, or of *Athous haemorrhoidalis*) hatch from eggs laid 1 inch below the surface and remain in the soil for at least four years before pupating; usually about 6 inches below the surface, but in severe weather they may descend to a depth of 2 feet. The leatherjackets (the larvae of Crane flies of the Genus *Tipula*) remain in the soil for nine months before pupating and emerging as the well-known Daddy-long-legs some fourteen days later. 'Hatches' of the imagines usually appear during August and September. The cockchafer grub, recognizable by its creamy white colour, large, fleshy appearance, and characteristic curved manner of lying in the soil, may be the grub of either the Summer Cockchafer or the Common Cockchafer, the former being the more injurious to crops. It remains

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in the soil for three years but it is not harmful to crops during its first year. When one considers that all these larvae feed on the roots of cereals, grass, potatoes, and other vegetables, including root crops, and work unseen well below the surface, one should applaud the efforts of the Rook in eradicating them. It is often claimed that Rooks uproot young cereals and potato plants. This is not done for any liking of them as food but because the bird recognizes the presence of some pest at the root. Yet farmers view this uprooting as damage and not as productive assistance. Similarly grain is taken after sowing in spring not for its own sake by search but through being fortuitously disclosed during the bird's search for invertebrates in the soil or through being imperfectly covered during harrowing. At that time of the year the bird's choice is animal food, it does not purposely search for vegetable tit-bits, if the former be available.

The Jay and the Magpie, though naturally shy, wily, and retiring, do visit gardens, generally at very early hours. The former is particularly addicted to a breakfast of green peas. Although both are in the main beneficial by destroying the young of rodents, grubs, beetles, and slugs, their habit of taking the eggs and young of smaller birds does not commend them, particularly to the sanctuarian. For this reason they are preferably excluded from a garden, though it is no mean undertaking to circumvent or eliminate the Jay. Despite their utility in other directions, these predatory habits disentitle the Jay and the Magpie from receiving a lower assessment than 60.

For the same reason, the Carrion Crow receives a rating of 60 also. Although it does no active harm in a garden it is an inveterate egg thief and a pest in the vicinity of duck and poultry runs. During the time of waiting for a chance to rob, the Crow is ever on the watch for small birds that unwittingly may disclose the situation of their nests. Any bird sanctuary near a poultry farm requires

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constant vigilance against the depredations of Carrion Crows. Its other food is similar to that of the Rook, but it tends more to carrion consumption than the other members of the Crow family, hence it is becoming commoner near built-up areas where garbage heaps attract it.

So much for the harmful, or doubtfully useful birds. As can be seen they are very few in number and two of them, the Starling and the Rook, under normal conditions and still in many districts are useful.

The capacity of the Bullfinch for harm has long been a matter for argument, the reason being its habit of stripping fruit and other tree-buds in spring. Its mischievousness varies according to the district. In fruit-growing areas, or where woodland and scrubby vegetation abounds, the bird can be a nuisance for roughly one month in the year. Though normally a seed-eater, it becomes truly 'vegetarian' in early spring and attacks the green buds of many trees, with a preference for fruit trees. It would be idle to deny that at that season considerable damage appears to be done in orchards. Some individuals peck off far more buds than they can consume. We say 'damage appears to be done' advisedly, for it is unreasonable to suggest that all the buds destroyed would have formed fruit or that the denuding of the tree of a proportion of its foliage is not beneficial in limiting the energy it is called upon to expend. The fact that the Bullfinch also consumes the buds of bullace, gean, and other wild fruits, of hawthorn, and blackthorn should not be overlooked, or the fact that these wild trees manage to produce handsome crops each year in spite of the damage. Where blackthorn, hawthorn, wild plum, and cherry are common, damage to cultivated crops is less. The Bullfinch also devours the berries and seeds of rowan, elder, dogrose, privet, and hawthorn, and the seeds of thistles, groundsel, plantain, ragwort, and chickweed.

Although the damage to fruit crops is exaggerated, this

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handsome Finch is the least useful of the family and does not justify a rating superior to 35. It certainly does not deserve the condemnation usually received, having regard to its general utility for ten or eleven months in the year, and the problematic result of its attentions to fruit trees during the other month or two.

The much rarer Hawfinch is also partial to orchards but for a different reason. Its main sin is the de-stoning of cherries, the stones being cracked with ease by its powerful beak. It treats damsons, bullaces, geans, sloes, and dwarf wild cherries similarly. Garden peas, too, are a great attraction to this species, the pods being crushed along the hinge. Its wild food comprises vegetable items in the main, such as the fruits and berries of dogrose, elder, hawthorn, and bramble, together with the seeds of weeds particularly those of a hard nature. In common with other finches, it feeds its young largely on insects and takes a fair proportion of these in its summer diet. Were it more generally distributed, the Hawfinch might become a nuisance to horticulture, but at present it is uncommon. Its distribution is local and its pea forays limited to gardens near its woodland haunts, from which it seldom strays for any distance. A rating of 30 is a fair estimate of its harmfulness.

Of the three members of the Thrush family, Mistle Thrush, Song Thrush, and Blackbird, the last named is the least useful in the garden, although all are highly beneficial in the main. All of them destroy worms on lawns (anywhere else the worm is useful), various kinds of grubs, caterpillars, snails, and some kinds of slugs. Oddly enough they eschew the testacella slug, which happens to be a useful creature which, unlike the usual run of slugs, works mainly underground. In winter all three subsist also on the berries of rowan, ivy, holly, hawthorn, and others. The Blackbird, however, is more partial than the other two to fruit, especially soft fruit in the way of strawberries and



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raspberries, cultivated blackberries, loganberries, and the like. Most of the damage is committed during droughts, when apples, pears, gooseberries, currants, and cherries will also be attacked. As a measure of protection the provision of ample drinking water near the trees and bushes is recommended. In the case of bush fruits the obvious precaution is to net, for no one would destroy such a useful bird as the Blackbird which, in common with the other Thrushes, destroys many wireworms, moth larvae, and the larvae of diptera and lepidoptera. All three species partake of elderberries and wild blackberries also. We consider their comparative assessments to be, Blackbird 20, Song Thrush and Mistle Thrush 15 each.

The Greenfinch, Chaffinch, and Goldfinch are frequent garden visitors, the two latter choosing lichen-covered fruit trees as nesting-sites in preference to all others. All three are almost wholly vegetarian for nine months of the year, consuming the seeds of thistles, dandelions, charlock, coltsfoot, ragwort, plantain (both greater and lesser varieties), dock, groundsel, and shepherd's purse. In summer they supplement their diet and feed their young largely on insects of all kinds. The Chaffinch consumes more insect life than any other of our native finches. Apart from the habit of the Greenfinch of digging up and consuming sprouting seeds, and of the Chaffinch occasionally damaging fruit buds and seedlings, all are extremely beneficial. With its decided preference for thistle and dandelion seeds the Goldfinch is the most useful. A fair assessment of their respective potentials for harm is, Greenfinch 15, Chaffinch 10, and Goldfinch 5.

The benefit conferred upon horticulture by the Titmice is undisputed. All of our tits destroy innumerable insects and their eggs and larvae. They are constantly and diligently searching every tree crevice for their prey and go over the boughs and foliage with meticulous care. The only damage, if it can be called damage, that can

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fairly be attributed to tits is the pecking of holes in fruit, generally in search of the grubs of sawfly and codlin moth, and the seemingly unnecessary destruction of sound fruit buds in their search among infested buds for blossom mites or the maggots of blossom weevils and other pests. The Longtailed Tit, Coal Tit, and Marsh Tit are not so prone to offend as the commoner Great Tit or Blue Tit. All these birds merit a rating of from 0 to 3.

Of the Warblers, a family of almost exclusively insectivorous tastes, several species are garden visitors and all of them are summer migrants. The Willow Warbler, Chiff-Chaff, Whitethroat, and Lesser Whitethroat cannot be claimed to do anything that is harmful throughout their stay and must all be credited with a rating of 0. All consume diptera, gnats, the larvae of butterflies, moths and beetles, aphidae in all stages of development, spiders, and in particular the green tortrix caterpillars that infest the oaks and willows.

The Blackcap Warbler and the Garden Warbler mar otherwise clean sheets by acquiring for a short period a taste for currants and raspberries. Actually they do not touch these until their young are fledged and if late in breeding may not have an opportunity before the crop is picked. Our own experience also confirms that only overripe fruit is taken and, as neither species is present in large numbers, the actual damage is negligible.

The Willow Warbler eats elderberries but the claim that it takes green peas is erroneous. The Blackcap and Garden Warblers will also take the berries of honeysuckle, elder, and privet.

By and large, these two species are but little less useful than the other four. The deduction of two points would be fair and reasonable while, as mentioned above, the others should without any doubt receive a rating of 0.

The Spotted Flycatcher, too, is a migrant and wholly insectivorous, performing nothing but good. It is par-



Plate 6.

NEST OF BLACKBIRD (*Perivale*)



Plate 7.

BLACKBIRD AT NEST (*Perivale*)

[p. 49.]

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ticularly destructive among mosquitoes and gnat-like insects. The o rating is clearly applicable to this species.

Finally we have a trio of associated garden residents, the Robin, the Wren, and the Hedge Accentor (popularly but unfairly known as the Hedge Sparrow). All are insect eating and highly beneficial, although the last named does eat small weed seeds. No one can in truth point to any failing on the part of any of them to perform useful assistance at all seasons to the gardener. All must necessarily be assessed at o. It would, in fact, be sacrilegious to suggest that the Robin could do any harm, being the very embodiment of active assistance to and co-operation with the garden lover. In winter, the Hedge Accentor eats weed seeds, such as those of polygonum, ranunculus, plantain, rumex, and spurrey, but also at that season takes a large proportion of animal matter. Throughout the year and no matter how severe the weather the Wren seems able to find sufficient insects and spiders to subsist. Its habit of taking cover in ivy and other dense vegetation probably accounts for its ability to find food.

While the foregoing particulars of the main feeding habits of some thirty species of garden birds are necessarily not exhaustive, they aim at supplying a fair and just picture of their respective values to the gardener in a descending scale of harmfulness. It can be accepted that any other usual garden visitors not specifically referred to, such as Wagtails, Woodpeckers, Nuthatches, Tree Creepers, Nightingales, Redstarts, and Golden-crested Wrens, are entirely harmless.

The garden crop most generally injured is the green pea, whose succulence is an irresistible attraction to Jays, Magpies, Wood Pigeons, Bullfinches, Hawfinches, and very occasionally to Blue Tits, Blackcap Warblers, and Greater Whitethroats. The moral is to take precautions by netting, for it is inconceivable that the benefits otherwise accruing to the gardener from all those birds—with the

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exception of the Wood Pigeon—should be entirely discounted because one transient crop, which of itself forms but a very small fraction of all the plants grown in the kitchen garden in a season, should receive undue attention from birds.

There is no doubt whatever that birds in large numbers and variety are necessary companions to a successful and productive horticulture. If our husbandry is to prosper, we should accord to the birds that help and bestow upon them that appreciation which their labours deserve.

It is to be expected that the farther one travels from the wild and the more one eliminates natural cover and the natural food which accompanies it, the more will the birds be tempted to seek additional sustenance from and among garden produce and fruits in season. The toll exacted must of necessity prove higher in town gardens in proportion to the number and types of birds involved than in gardens on the fringes of the countryside or in districts where wild fruits and berry-yielding plants are prudently cultivated as an attraction to the birds.

On the whole, birds in a garden can be regarded as a blessing and a joy. They charm by their presence and uplift by their songs. They toil unceasingly in the destruction of the enemies of natural vegetation and if, in so doing, some take a toll of bud, seed, or fruit, the damage thus done by a few is but a small measure of the benefits conferred by them all.

### CHAPTER III

#### THE CREATION OF A GARDEN SANCTUARY

A SANCTUARY is defined as a refuge, an asylum from violence and persecution. A sanctuary for wild birds is primarily an enclosed area wherein they can nest in privacy and security. It is also a reserve, so conditioned as to attract more and more birds and induce them to breed within its borders. Its first object is to retain its original inhabitants and its second to attract visitors and make them residents.

A bird sanctuary is successful in these objects in so far and in such degree as it provides appropriate natural cover, adequate normal food, and excludes natural enemies. Privacy, security, sustenance, water, and nesting accommodation are paramount essentials and in that sequence of importance. No matter how attractive or suitable an area may be for nesting purposes, it will cease to interest birds if interference and intrusion are permitted, while an area providing plenty of food and water cannot, in the absence of nesting-sites, constitute a sanctuary.

In a garden sanctuary privacy and safety are inherent. Food and water supplies can be artificially augmented. Consequently the provision of nesting accommodation becomes our first aim and a condition precedent to success. The proper provision of furnishings is, in fact, the basis upon which to make a garden reserve fit and acceptable to the birds. In the absence of suitable facilities for breeding, avian visitors remain visitors, they never become lodgers; they partake of our hospitality and pass on.

The essential requirements in the provision of nesting-sites can only be appreciated by investigating principles

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underlying the choice of nesting-sites in the wild. Birds that nest in gardens do not for that reason materially change their habits of nesting. Only by counterfeiting the types of cover used in the wild can we hope to persuade them to nest in the garden we provide.

Birds are creatures of light and air. For them, with very few exceptions, gloomy undergrowth holds no attraction. They prefer their homes to be little removed from open spaces. They do not seek seclusion in dim remote fastnesses of copse, wood, or hedgerow, but in small pockets of denser growth immediately surrounded by or adjoining clearer areas. Not every patch of undergrowth is suitable as a nesting-site. The eternal struggle for existence, for access to the life-giving light and air, causes attenuated growth in some cases and tangled intermingled growth in others. Sites for nests only abound in cover whose growth and expansion are normal. Hence, even in the open country and in the woodlands, there is a marked preference for growth which is restrained and not overcrowded. Gorse, hawthorn, elder, and silver birch only persist in positions where they can develop normally and it is among such that nesting-sites are most frequently found.

Birds of the woodland nest on the fringes of clearings, in open patches of undergrowth bordering on defined tracks or on the thinning outskirts of the wood where it merges into common or meadow land. It is generally a waste of time to try to find the nests of smaller birds in the middle of a wood. A brooding bird naturally prefers the security of vision across an open space to the false security of dense cover all around, in which danger may be lurking. Even the Titmice and other troglodytes seek nesting cavities unencumbered by frontal cover. More often than not the privacy and security of a nest is the result of protective assimilation with its surroundings, and its success in escaping marauding eyes is not so much



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its concealment as its disguise. No one who has seen the felted nest of a Chaffinch openly placed in the fork of a lichen-decked fruit tree will doubt the truth that concealment under dense cover is not a necessary factor to the safety of a nest. With many ground nesters, such as Willow Warblers and Robins, the nest may be hidden from view directly overhead but be clearly visible from the side.

A bird places its nest in the position which instinct dictates will best protect it from the eyes of its natural enemies. Man, however, is outside Nature's scheme and because he applies reasoning in his search for nests, overlooks the fact that creatures of the wild, guided only by instinct, fail to apprehend or detect many nests in open positions. The bird that builds a nest in an unusual position or decorates it in an unusual manner frequently hoodwinks its natural enemies.

Applying these principles to a garden sanctuary we conclude that it should not be a gloomy, densely foliated area like the shrubberies of our grandparents' days wherein vermin can lurk and multiply ; nor, contrariwise, should it be formal and orderly, an area of geometric design. It should simulate the natural habitat chosen by birds with its diversity of vegetation, and the more it approaches to the natural type the greater the numbers and varieties of birds it will attract. Much of the interest in creating a garden bird sanctuary lies in the gradual building up of suitable cover. It must be planned ; fortuitous successes are rare.

Given sufficient space, and the necessary foundation in the shape of existing trees, such as elms, oaks, or birches of dignified proportions, a reserve in the form of a woodland clearing is superior to all others. The clearing should be fringed by clumps of bramble, gorse, elder, and black-thorn with, here and there, a bush of hawthorn. All of these are readily obtainable and grow rapidly.

Grassy paths should intersect the clumps of undergrowth.

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The coarse herbage that springs up naturally at the bases of young blackthorn and gorse should be permitted to grow unimpeded. This forms an excellent nest cover. Where it is necessary rapidly to make up for any deficiency in upper foliage, poplars can be planted, but they are of little utility as nesting-sites. Their advantage lies in an upright habit which throws little shade to restrict the growth of other cover near the ground. The use also of larch should not be overlooked. Being deciduous, it has little retarding effect upon ground cover in a confined space and, in addition, possesses the advantage of forming a favourite tree for nests.

If circumstances prevent the adoption of the clearing type of sanctuary, a part of a garden can be laid out in the form of a lane with a broad strip of grass replacing the furrowed track. With hedges of hawthorn, privet, or elder running down either side in front of a framework of some indigenous trees, such as rowan, sycamore, silver birch, white beam, or service tree, and an irregular fringe of graduated clumps of bramble, nettle, sweet briar, and other normal hedgerow herbage, such a lay-out can be equally successful.

Even the rectangular suburban garden can be made inviting for birds. Use can be made of fence angles wherein to grow the cultivated forms of blackberry, or sweet briar, or elder, which, if kept clipped like privet, forms a dense head with a number of forked nest-sites under its canopy of foliage.

The space at the foot of many long suburban gardens which is usually uncultivated or given over to fowls, could also be utilized if separated from the remainder of the garden by a hedge of sweet briar, hawthorn, or honeysuckle and then planted with cover suitable to the soil and district, e.g. gorse, elder, wayfaring tree, privet, larch, or common barberry. Privet should be allowed to flower and berry. The gardener should never be misled into

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using the evergreen Chinese Honeysuckle (*Lonicera nitida*) under the mistaken impression that its dense growth will afford cover for nests. Birds eschew it. If an evergreen is desired, the common laurel, allowed to develop naturally, affords good cover and situations for nests, but it must be used sparingly as little herbage will flourish near it. It appeals more to early nesters; later in the season lighter cover is preferred. If birds are attracted to a garden they will also make use of rose pergolas, wall shrubs and climbers, and cultivated hedges as incidental nesting-sites.

Whatever form our lay-out takes—and gardens are infinite in their variety—it is essential that vegetation be allowed to grow naturally but never to become lank and uncouth. The coarse herbage that springs up around and entwines the bases of gorse and bramble should be permitted to grow. Rotted tree-stumps, if placed where bramble and other spreading growth can ramp up and over, assist considerably in creating cover wherein sites for nests will be frequent. In the wild, similar conditions are attractive to Chiff-Chaffs, Whitethroats, and Hedge Accentors, while Willow Warblers often nest on the ground beneath the arching sprays of a bramble at the base of a tree-stump or fallen log. The judicious use of rake and shears in the autumn will promote sturdier growth each season and at the same time ensure the retention of small clumps with open grassy tracts between. This requirement of patches of undergrowth interspersed with clearer spaces cannot be too often stressed. It is the golden rule to a successful sanctuary.

While the policy of reverting a garden almost to the wild may offend the pure soul of the gardener and run counter to his ambition to secure orderly and regimented growth, it must be appreciated that a garden sanctuary is not, and should never be allowed to become, a jungle of tangled growth, rampant, unrestrained, and uncared for.

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If untended, the stronger shrubs and sub-shrubby plants soon oust others and themselves become lank in the process. A sturdy form of growth is essential. A bird sanctuary is of the wild, yet tamed; its natural growth is encouraged, yet restrained; it is informal, yet planned. A wholly formal garden can never succeed as a sanctuary. The way to privacy for the birds is through liberty of growth, irregularity of form, and variety of cover.

This need for variety of cover affords a welcome opportunity for the cultivation of some of our indigenous flowering trees and shrubs which besides beautifying the garden will increase its food resources for the birds.

In addition and without in any way impeding its primary purpose, the sanctuary can be *naturalized with native plants*. It can be carpeted with primrose, bluebell, daffodil, violet, wood anemone, herb robert, bloody cranesbill, campion, cowslip, wild forget-me-not, and others. Clumps of teasel will attract many birds to the fascinating seed-heads, while dogwood lends a welcome stem colour in winter, for its red bark contrasts vividly with the sombre hues of gorse and blackthorn. There are many trees and shrubs available among our British flora which are suitable in that they attract the birds, delight the eye, and fit in aptly with our scheme. Some of these and the reasons for their use are dealt with in a later chapter.

While the foregoing may appear to be a counsel of perfection there are very many gardens in the country or on the fringes of town and suburb wherein the nucleus for a bird sanctuary already exists in the shape of a few oaks or elms around and between which a natural reserve can quite simply be created. There are others merging on to woods or fields that retain within their rear boundaries some of the trees and shrubs that have persisted from the wild or that possess a field hedge and ditch for a boundary. All of these form a scaffolding upon which a sanctuary can be erected.

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Even the owner of a less open type of garden need not despair of results provided he does not expect too much. It is surprising what can be accomplished with a little cover and a few nest-boxes. There is many a suburban garden of the normal type where Chaffinches, Blackbirds, Song Thrushes, Great and Blue Tits, Robins, Hedge Accentors, and Wrens regularly breed. Birds are at all times of an accommodating nature and respond readily to our attempts to benefit them.

Birds, in nature, are attracted to water, not merely for the purpose of bathing and drinking, but also because of the insect life which abounds in damp places. They will also nest near water in preference to drier areas. Some, such as Nightingales, are seldom found in dry woods. The habit of nesting in damp areas probably arises from the fact that vermin are circumscribed there with the result that nests escape their attentions. The rat dislikes getting his feet wet.

The addition of a pond as a magnet for the birds is material to the success of a bird sanctuary. It need be neither large nor elaborate, but an informal shape is preferable. A shallow shingle-bottomed bay should be formed at each end where the depth of water should not exceed 2 or 3 inches. The depth over the remainder of the pond is immaterial. These shallower portions should never be overhung by bushes or other cover. An unimpeded means of access to bathing areas instils a sense of security in the birds and moreover circumvents the cat's habit of lying under cover to spring out upon the unsuspecting bathers. It is an advantage to site the pond or so arrange its surrounding vegetation that it can catch the morning and evening sun, thus the south-eastern, southern, and western fringes should be kept moderately clear of growth.

The numbers and different types of birds that will daily visit a garden pond is amazing, for they are all inordinately

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fond of bathing and will indulge the habit at all hours with a slight preference for the late afternoon.

In the case of a pond, too, the opportunity occurs for cultivating many native plants, both as marginals and aquatics. King-cup, meadowsweet, *Ranunculus lingua* (a tall buttercup with golden yellow blossoms the size of a florin), water plantain, yellow flag, marsh hypericum, and purple loosestrife are the best as marginals, while we can employ as aquatics the white water lily (provided the depth exceeds 3 feet), yellow nuphar, the lily-like villarsia, water crowfoot, hornwort, frogbit, and watermint, which last named possesses the quality of keeping water sweet for months. These are a few only of the species to which recourse can be had and whose cultivation is alone of absorbing interest.

In addition to, or even in substitution for, a large pond or pool, a satisfactory bathing-place can be made by inverting a dustbin lid, sunk to its rim, in the ground. With a flat stone centrally placed this makes quite a useful bathing and drinking-place. Shallow cement pools can also be constructed in open positions. All that the birds require is a secluded and safe stretch of water whose size and shape is of no material consequence so long as it has shelving edges.

For those who would convert a small stretch of woodland into a bird sanctuary the same underlying principles apply as in the case of the garden reserve. They apply with added force for the control of growth, and the formation of suitable conditions are more difficult to accomplish in a natural woodland where features are more rigid and the making of extensive alterations prohibitive. On the other hand, it is useless just to enclose a piece of woodland and call it a bird sanctuary. This is frequently done and is foredoomed to failure. Few woods are natural sanctuaries. Any wood, left to its own devices, untended and unvisited, soon becomes overgrown and

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coarse and a haven for vermin and other enemies of birds.

An uncleared wood will in the course of a very few years completely change the nature of its undergrowth and ground cover. Undershrubs and plants of coarse and rampant habit soon oust those of tenderer growth; brambles encroach on the herbage; bracken spreads and chokes ground cover; blackthorn increases by suckers far and wide and ultimately kills itself; and the final result is a tangled mass of underwood totally unsuited to the majority of small birds.

Woods of oak and elm, widely spaced, with ample clearings, well-lopped hazels with creviced basal stumps, and with an outer framework of hawthorn hedges, are invariably more prolific in wild bird life.

A woodland sanctuary will only succeed if it contains many clearings and pathways, clumps of bramble or gorse, and where widely spaced upper foliage, with oak predominating, lets in the light and keeps down the tendency of undergrowth to become spindly. An encircling hedge of hawthorn is a great advantage, and if the whole outer fringe of the wood within the hedge is kept cleared of undergrowth to a width of 10 to 15 feet very many birds will nest along the outer edges of the wood in almost any form of ground vegetation. If netting is erected around the wood this must be set up well away from any hedge. Netting affixed against or too near to cover is a frequent source of injury to birds as they fly hurriedly to the security of a wood.

Every endeavour should be made to increase the supply of suitable sites for nests by timely lopping of hazel and elm to form low stumps and thick basal growth. Clearings should be kept open, brambles periodically cut back, and blackthorn thinned for its own protection. Gorse will improve as nesting cover if periodically well pruned. All trees growing too close together must be sacrificed.

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It is far better to have a few large well-formed forest trees capable of ample spread than a dense covering of upper foliage from closely spaced, misshapen, and stunted specimens.

Although size is only of relative importance, practical experience indicates that an area of 5 acres is the minimum for a woodland sanctuary if the essential basic framework is to be available. A smaller area will not supply the fundamental requirements of a broad cleared strip surrounding the wood where only a few clumps of low bushes remain, an open southern or south-eastern end where there is a gradual and graduated transition from open grassland through scrub and underwood to wood proper, an extensive central clearing and two broad paths or 'rides' bisecting the wood from north to south and east to west and intersecting at this clearing. Given such a lay-out combined with a careful oversight of the growth of ground cover and the judicious provision of nesting-boxes and trays and other supplementary aids to increase nesting facilities, success is assured.

The broad basis upon which to formulate a sanctuary in a garden or private woodland should now be clear. The details must be left to circumstances and the means available to each individual. Given a suitable framework, infinite variety of cover can be introduced according to the wish and whim of the creator and the soil and conditions of the district.



#### CHAPTER IV

### ARTIFICIAL NESTING AIDS

WITH whatever vegetation we may clothe our garden sanctuary, we cannot hope, in the limited area at our disposal, to provide suitable natural sites for all the birds resorting to it. We can, however, supply artificial aids in the form of nest-boxes and nesting-trays, which will enable a considerable concentration of breeding individuals to be attained.

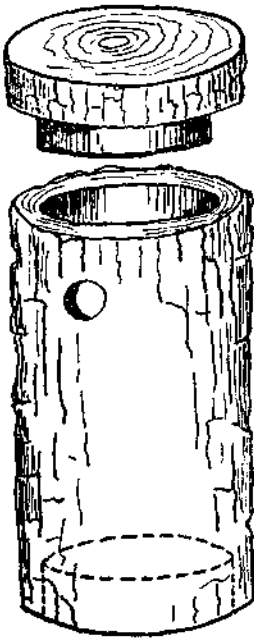
One-quarter of the species habitually found in gardens are cavity nesters who, in the present state of our woodlands and hedgerows, are hard put to it to find sufficient housing accommodation in the wild. It is in this supplementing of natural resources that the bird sanctuary excels, and as few of such cavity nesters are truly territorial in habit a higher density of breeders can be ensured than would appertain elsewhere.

The supply of boxes, trays, and other aids must not, however, be overdone. The number of such artificial nesting-sites erected does not determine the numbers of birds that will breed. It is far better to err on the side of too few boxes at first, until occupation during previous seasons and disputes between intending owners reveal whether or not any additions are justified.

The choice of nest-box is important. Many have been disappointed in the past through using unsuitable boxes and have concluded that the attraction of birds to a garden is an intricate problem. On the contrary, given suitable forms of boxes the shortage of natural holes and crevices in our woodlands leads Titmice and other troglodytes gratefully and without inducement to accept our aids.

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While there are many types of nest-box commercially available, few satisfy practical requirements. They must be roomy—otherwise a normal brood of Titmice will not all reach maturity—weathertight, and retain pleasing lines. Productions with gabled roofs, verandahs and such like imitations of human abodes are useless. The entrance hole must be near the top and allow of a depth between it and the base of the cavity of at least 10 inches, while the internal diameter of a box should be not less than 6 inches.



The Selborne  
Nesting-box.

The type made from silver birch is useless. It is a wood that rots quickly, and unless cut from a specimen tree the boxes are far too small. Placed against any other tree-trunk than silver birch, such boxes are an eyesore, and birds avoid incongruous and conspicuous sites. We know of one 'sanctuary' where liberal applications of clay had to be stuck to the exteriors of birch boxes before they were tenanted—a temporary remedy at best.

The type we prefer is that supplied by the Selborne Society. These boxes are cut from oak, elm, or beech, are simple to affix and maintain, have no fancy catches or hinges to break, and above all look natural, which is, after all, the main function of a nest-box. The snug, weather-tight fit of the removable lid is particularly pleasing. It cannot be lifted or knocked off by cats or other predatory visitors. The normal internal depth of these boxes is 10 to 12 inches and diameter 6 to 8 inches. The entrance

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holes are made of exact sizes—that of a florin ( $1\frac{1}{8}$  inches) for Blue, Coal, and Marsh Tits, and that of a half a crown ( $1\frac{1}{4}$  inches) for Great Tits. The larger size can be negotiated by Robins, Nuthatches, and Tree Creepers, but if slightly exceeded will allow House Sparrows to gain ingress and oust the rightful owners.

Details of manufacture are as follows. A log 15 inches in length and 8 in diameter has a cross-section about 2 inches deep removed from one end. This forms the outer lid. The remainder of the log is treated by having its centre removed *en bloc* to leave an outer wall an inch in thickness. This is accomplished by means of a band-saw or a bow-saw. The longitudinal starting cut in this resulting tube is drawn together by nails driven in obliquely. From the solid block thus removed another cross-section is cut from the end whence the main lid section was cut, which, if nailed to the underside of this wider section, forms the recessed part of the lid, the difference in size as the result of the width of the saw cut enabling it to fit fairly tightly into the top of the tubular box proper.

Another cross-section cut from the other end of the removed block is reinserted in the base of the tube and nailed in place to form the bottom. We now have the log reassembled in its original appearance externally and without any additions, but with its interior entirely removed to form a cylindrical cavity some 6 inches in diameter and about 10 inches or a foot deep. All that now remains is to bore the entrance hole not more than 2 inches below the upper edge of the box itself, so that its upper rim is practically on a level with the base of the recessed portion of the lid, and then to affix the box in the chosen position on a tree-trunk or fence post.

The best method of affixing nest-boxes to their supports is to bore a small hole in the back of the box immediately opposite the entrance hole, and from the inside insert a

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screw through this hole and through a spacer, consisting of a rubber door-stop, and thence into the support. The screw is driven home by using a long screwdriver through the entrance hole. The addition of a brass plate at the bottom of the box—screwed to the box and through a similar rubber spacer to the support—is an added precaution. A box set up in this manner remains secure and rigid for a long time and moreover, through the use of the rubber door-stops, does not get damp and rot at the points of attachment. It is also advantageous to use a metal washer under each screw head to ensure that the box does not break away at the screw.

Another form of box which we have devised and used with success for some years is an elaboration of the *Selborne type incorporated at the top of a tree-stump standing 3 to 6 feet high*. This imitates a growing stump, in the top of which Titmice and other cavity nesters will build whenever a convenient hole or crevice is available. For this tree-stump type one requires a log from 4 to 7 feet long. A portion about 14 inches long is sawn off the thinner end. This is treated in all respects in the same manner as the foregoing box, save that a replaced bottom piece is unnecessary as the hollowed out portion can be re-affixed to the top of the stump by nails driven home obliquely. Alternatively, in the case of stumps of oval section, the sawn-off portion can be hollowed out by sawing this in half longitudinally and then gouging out each half with a chisel and reassembling by nailing (see Plates 13 and 14). With an entrance hole bored in the usual position and a recessed lid, the box makes a natural-looking cavity at the top of a stump, which is sunk at its lower end about 1 foot into the ground to secure rigidity.

This type of nesting-box can be made at the top of a stump of almost any length and will provide positions wherein Wood-peckers, Wrynecks, Tree Creepers, Nuthatches, as well as the usual Tits and Robins, can nest. In

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the case of the last two named, a stump standing about 3 feet high will suffice.

This principle can also be employed on growing trees. Unwanted trees are frequently looped almost to the ground. If as a change a few feet of stump can be left and the top of this made into a cavity, no finer site for a nest can be devised. In the cases of elms and willows, new growth will break out beneath the cut and soon form a perfect screen around the cavity. Nor must similar treatment of large boughs be overlooked. A bough inclined at forty-five degrees or more to the horizontal will prove suitable, as the bird will adjust the level of its nest within the cavity. Ash and willow are peculiarly adapted to treatment in this way.

Ordinary nest-boxes should be set up in the autumn. They will then become weathered before the spring and will, moreover, be used as dormitories during inclement weather by Wrens, Titmice, and sometimes Tree Creepers.

If it is desired to have a nest-box on a garden shed or in the angle of a close boarded fence, a rectangular shaped specimen is quite suitable and easily made at home. Made of half-inch wood and measuring not less than 7 inches wide by 10 deep externally and treated outside with creosote or other wood preservative, and with its entrance hole within an inch of the top, such a box will be tenanted by Great Tits, Blue Tits, or Robins. The lid must be hinged at the front of the box so that, when the contents are being inspected, the bird can flush through the entrance hole unimpeded. One should never stand in front of a nest-box when examining its contents. A front hinged lid is less likely to be lifted by cats, grey squirrels, and other marauders.

The best orientation of nest-boxes is a moot point. Experience shows that birds like to greet the morning sun and show a marked preference for boxes facing east or south-east. A direct southerly aspect is not liked unless

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the box is well shaded by foliage overhead. A direct northerly aspect is definitely detested by birds. Yet the nature and extent of the cover surrounding a nest-box is so variable that one cannot lay down hard-and-fast rules but only set forth general preferences.

Tit boxes should not as a general rule be set up higher than 6 feet from the ground nor less than 4 feet, but the upright log type need not be so high. We have known Great Spotted Woodpeckers to annex a tit box and rear a brood in it although not more than 5 feet from ground level. There is no reason why a tit box should not be fixed up in a robust tree some 20 to 30 feet from the ground as an inducement to Woodpeckers and Wrynecks to become tenants. The ordinary-sized entrance hole will suffice, as both birds will enlarge it to their requirements, and, until this is done, Starlings and Sparrows will be excluded. The metal plate over the entrance hole of the box, shown in Plate 2, was employed to remedy damage caused by Woodpeckers. The base of such a box should be hollowed by inserting one of the loose wood bottoms with a central concavity as are sold for use in budgerigar's nest-boxes. The base of a Woodpecker's 'nest' is curved so that the eggs can lie together. Nuthatches, on the other hand, are quite content with boxes at a low level.

Tawny Owls will accept nest-boxes. A small wine cask or apple barrel with an oval entrance hole measuring 6 inches high by 4 inches wide and provided near the bottom, will prove quite satisfactory. Such a box must be very securely set up in the main fork of an oak or elm not too overshadowed with foliage, have its entrance hole facing south-east, and be not less than 30 feet from the ground.

All nest-boxes should be cleaned out and old nests removed each autumn and fastenings inspected and renewed as necessary. So much for nest-boxes for cave-dwellers.

The catholic nesting tastes of Robin and Wren include

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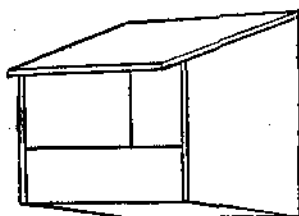
the choice of old kettles, tins, and flower-pots. The Robin will nest in these whether on or above the ground, but the Wren will not nest at ground level. We prefer to place these receptacles in a hedge or firmly wedged in the fork of a willow or other tree-stump some 2 to 3 feet above ground. In the case of empty tins and old kettles a backward tilt is necessary and some holes must be bored in the back lower edge for the purpose of draining away surplus moisture. After one has had a Robin's nest in a quart-size paint tin ruined during a heavy rainstorm through neglect of this elementary precaution, it cannot be stressed too much. In setting up receptacles of these types dense overfoliated sites are to be avoided—the more generally open the position the better. The tins used by Robins may measure not more than 6 inches deep and 4 inches in diameter. We have known of two or three Robin's nests in old two-pound Golden Syrup tins. These measure only  $3\frac{3}{4}$  inches by 4 inches and are therefore somewhat on the small size. Much larger receptacles will, of course, be accepted, the bird filling up the extra space with loose leaves. Wrens are particularly attracted to kettles.

Spotted Flycatchers readily accept a nest-tray or an open-fronted box, and either can be at any height from 5 to 25 feet from the ground. These birds will not normally accept trays at so low a level as the boxes unless they are well screened from view. Any aspect, other than a direct northerly one, seems to be suitable.

For both trays and boxes we adopt the Selborne Society's types. The tray consists of a square frame of four split halves of 2-inch diameter elm, willow, or oak bough, each piece being 4 to 5 inches long and nailed together at the corners with their flat sides inwards. Across the frame to form a slatted base are four pieces of similar wood, with rounded sides outwards. The result is an openwork tray measuring about 4 inches square and 2 inches deep internally. Affixed horizontally with strong nails in a position

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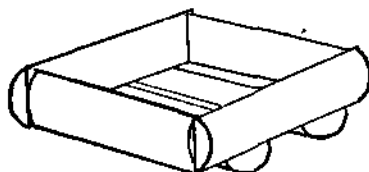
above or below—preferably the latter—some brushwood sheaf on the bole of an elm or ash, the tray forms an elegant nest platform. Larger trays of the same general design have been used with success for Blackbirds, Song Thrushes, and even Wood Pigeons, while Chaffinches have quite frequently adopted the usual Flycatcher tray when it has



Flycatcher Box.

been set up just beneath some twiggy growth on a tree-trunk.

The open-fronted type of box for Flycatchers, which will also be tenanted by Robins in suitable positions, and if made on a larger scale will attract Blackbirds and Thrushes, should normally have inside dimensions of



Flycatcher Tray.

8 inches high, 6 inches wide, and 5 inches deep from front to back. The top should slope at an angle—whether it does so from back to front or from side to side is immaterial but there must be an overhang of 1 inch over the two sides and front to form eaves. Save for a basal strip 2 inches deep so as to form a tray at the bottom of the box, the box front is open. Plain wood about  $\frac{1}{2}$  inch thick is





Plate 8.

SONG-THRUSH AT NEST (*Gerrard's Cross*)

[p. 38.]



Plate 9.

HEDGE ACCENTOR ON NEST (*Ichenlam*)

[p. 39.]

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quite strong enough from which to make up such a box. Spotted Flycatchers do not appear to evince any decided preference between tray, box, or natural sites in the Perivale Sanctuary, where some fifteen pairs nest annually, nests being more or less equally divided between the three forms of nesting-site.

Where it is proposed to put up a tray in a porch or the angle of a garden wall, a triangular type with half-rounded front, like a bow window, proves very satisfactory and is less conspicuous than the normal type in such positions.

We can also supply birds with what, for want of a better description, we term fabricated sites. Though natural in substance and appearance, these are artificially created. They counterfeit nesting-sites normally resulting from natural growth or natural decay. In the woods and hedges young elm and other trees, for instance, which have been cut down within a foot or two of the ground, soon sprout anew and form a basket-like fringe of growth around the top. This space with the top of the stump as a base is a frequent site for a nest; Chaffinches, Thrushes, Blackbirds, and Hedge Accentors being the usual occupiers. This is one type of site that can be provided in a sanctuary by setting up a suitable stump in such a position among brambles or in a hedge as to form a platform for a nest. By training bramble stems around a field post in our hedge we have induced a Song Thrush to build upon the flat top of the post.

Many woodland and hedgerow nesting-sites are to be found in dead bracken fronds or coarse herbage, which in the course of time and through movement by the wind have accumulated and formed clumps of cover held together by brambles or fallen twiggy branches. Such conditions can be counterfeited in odd corners of a garden, at the base or end of a hedge, in fence corners, alongside a tool-shed, or near the refuse dump, by using small faggots or peasticks and dried bracken fronds or coarse grasses.

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Such loose bundles often appeal to Wrens, Hedge Accentors, and Chiff-Chaffs.

Lastly, an old garden wall can provide many artificial crevices in imitation of the nooks and crannies which, through time and the elements, are abundant in country and wayside walls. The removal of a brick here and there, where rambler rose or espalier fruit tree affords frontal cover, will produce results with Robins, Wagtails, Spotted Flycatchers, and Titmice.

There is infinite possibility in the creation of suitable nest-sites. The sanctuarian can exercise his ingenuity by studying and trying to imitate the positions chosen in the wild. The knowledge gained from practical consideration of the natural choices will give him that insight into bird habits so helpful in the creation of artificial sites.

In the building and particularly in the lining of their nests birds use a variety of materials—horsehair, sheeps' wool, feathers, fibrous roots, and plant down are all employed. While it is not suggested that the presence of nesting material in the immediate vicinity governs the choice of a particular area, there is no doubt but that the availability of materials does influence the birds to some extent. The breathless speed with which Chiff-Chaffs and Titmice fashion their nests indicates a predetermined choice based on advantageous supplies of moss, grasses, feathers, hair, and the like. Birds do not normally travel far in search of materials for their homes and will accept what is nearby. This habit results on occasion in such incongruities as newspaper decoration to a Mistle Thrush's nest and yellow wool lining to the nest of a Chaffinch. So, if we can make available in some convenient receptacle—such as a wire netting or string bag—a quantity of soft materials, shredded cotton wool, worsted, dogs' combings, feathers, and moss, we will be assisting the birds and may probably induce them to nest nearby. Our dog, who shed his fur on gorse and bramble in his wanderings round the

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sanctuary, was the innocent provider of the soft lining to the nest of a Great Tit for several years. Packets of moss and feathers such as are purveyed by canary dealers may assist in town gardens, although the House Sparrow will purloin an undue share. Chaffinches and Goldfinches will frequently use coloured wools for decoration to their nests, and Titmice in their nesting 'caves' will use any form of soft material fortuitously coming their way.

Nature is infinitely variable and her creatures strangely fickle in their likes and dislikes. None is more so than birds in their choice of nesting accommodation. We may provide them with sites in replica of their normal choice; we may supply natural cover such as they require; we may even train, trim, or prune, some shrub or tree to suit their convenience, and yet be disappointed. Our efforts may be spurned and some site undreamed of taken. We have had Blackbirds choose the top step of a household step-ladder inadvertently left near their usual nesting-site in a hedge. After rearing one brood in this unusual position, they returned to the hedge for their second. Other instances could be cited of neglect of the usual for the unusual. Hence, any suggestions regarding the provision of nest-sites are not intended to be exhaustive. One cannot dogmatize regarding birds. Within broad limits they are strangely individualistic. Herein lies their greatest charm. It is for the sanctuarian to provide for their needs on the basis of their normal selection, but he can neither foretell nor ensure the result of his planning.

## CHAPTER V

### FOOD SUPPLIES AND THEIR INCREASE

THE enrichment of the natural food resources of a garden sanctuary is a condition precedent to success. Added feeding facilities increase the benefit conferred by the birds by restricting their desire at certain seasons for bud or cultivated fruit without in any way limiting or impeding their destruction of insects and other injurious pests.

During the spring and summer months, insect and other life should prove adequate to sustain both adult birds and their young, but during the autumn and winter when insects are scarce and wild seeds have ripened and dispersed, the birds are driven to eke out a meagre existence from wild fruits and berries. It is during this difficult time that help is most welcome to them and most productive of future benefits to us.

If birds are to be retained, a garden sanctuary must provide adequate food throughout the year, with particular emphasis on the lean period between November and March. This can be effected in two ways, first, by planting wild fruit trees and berry-yielding shrubs, and, secondly, by supplying artificial food on bird tables and in automatic hoppers.

In the provision of wild fruits and berries a utilitarian scheme can be adopted which makes an added attraction for the birds by co-ordinating feeding and nesting requirements. To this end, trees and shrubs are chosen that combine, in their habit of growth and the nature of their crops, suitable cover with suitable food. Bearing in mind that the migrant birds of summer are almost exclusively

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insectivorous and therefore only require cover for their nests, while the resident species are more or less omnivorous and require food the year round as well as nesting-sites, the underlying necessity for this co-ordination of both cover and food becomes apparent. The small area of a garden sanctuary accentuates this need for concentration.

Happily there are many indigenous trees and shrubs that satisfy both requirements without the necessity for importing into the sanctuary any exotic species.

Our sanctuary should be a wild garden wherein choice native trees, shrubs, and plants luxuriate and please the eye in association with homely bramble, blackthorn, gorse, and briar as cover plants. Were we to be limited to twelve species of tree or shrub to provide both food and nesting facilities, we should plant :

The Hawthorn (*Crataegus oxycantha*), the best of all for cover, whose crimson berries are beloved of most birds.

The Bullace (*Prunus insititia*), with larger flowers and fruits than its relative the Blackthorn or Sloe and with less twisted branches.

The Mountain Ash or Rowan (*Sorbus aucuparia*), whose berries, bright scarlet without and yellow within, are a great attraction to Thrushes, Blackbirds, Robins, and others, and useful because other plants will readily grow beneath it.

The Gean (*Prunus avium*), a wild cherry whose umbels of white flowers are followed by heart-shaped black or red fruits much sought after by birds.

The Wayfaring Tree (*Viburnum lantana*), will grow on chalky soils and produces white flower clusters followed by flattened oval berries at first red and finally ripening to black.

The Wild Service Tree (*Sorbus torminalis*), akin to the larger White Beam but more refined in all its parts, with similar white, loose-clustered flowers but smaller round scarlet fruits ripening in November.

The Sweet Briar or Eglantine (*Rosa rubiginosa*) must

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form a patch by itself. It is an excellent cover plant with a pleasant pervading odour, pale pink blossom, and many scarlet hips for winter food for the birds, and of denser growth than the Dogrose.

The Elder (*Sambucus nigra*) should not be forgotten. It is an easy grower, rapidly becoming sturdy and dense under the shears to provide exceptional cover, while, in late summer, it produces numerous blue-black berries that attract Warblers, as well as the ubiquitous Thrushes, Robins, and Blackbirds. There is a cut-leaved variety (*Sambucus laciniata*) which is decidedly ornamental and worthy of a choice position.

The Spindle Tree, too, merits special consideration for its quaint fruit change in October to a pale crimson hue, and are the prettiest of all English berries.

The Dogwood (*Cornus sanguinea*), with its blood-red stems, earns its place. It has clusters of small white flowers that are highly nectarized but unpleasantly odoured, and green berries which turn as they mature to a purple-black in October.

The Wild Pear (*Pyrus communis*) is not without beauty with its clustered inch-wide flowers of the wild-rose type followed by small pear fruits ripening to yellow in November.

Lastly there is the Field Maple (*Acer campestre*), which usually forms a mere bush and has highly ornamental five-cut leaves and broad-winged seeds, which take on a crimson colouring before they ripen and fall, and are sought after by Finches.

Although some of these are not in themselves good cover plants they are useful in that their light habit of growth does not overshadow the basal herbage that grows up around them to form suitable nesting-sites.

We possess few native evergreens that are satisfactory in a garden sanctuary. Apart from the common Gorse, only Holly, of which there are numerous varieties now



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cultivated, and Yew are worth consideration. Both suffer from the disadvantage of extremely slow growth and a dislike of transplantation. Although evergreens are useful for providing cover for early nests, there is little advantage in their use, for their influence on the growth of nearby vegetation counterbalances any increased cover facilities they may afford. Both Holly and Yew, of course, yield berries for the birds when sufficiently mature. If evergreens or an evergreen hedge are desired it is preferable to use some of the barberries, such as *Berberis aquifolium* or *Berberis Darwinii*, or even *Cotoneaster Simonsii*, which is attractive both in foliage and berry. *Cupressus Lawsoniana*, too, stands clipping well and makes a fine dense hedge of from 5 to 12 feet in height. It thrives in most soils and is naturally quick growing. These foreigners, however, are preferably planted on the boundary of the sanctuary to act as a frame within which we concentrate on native species.

A more exhaustive list of native shrubs and trees suitable for planting as food providers and/or nesting cover is scheduled at the end of this chapter.

Some plants of the herbaceous type are also worthy of consideration. Many of our birds, Finches in particular, feed upon the seeds of weeds and are specially attracted to certain common species. Patches of meadow-sweet, teasle, and annual flax can and should be cultivated. Teazle is a great attraction to Goldfinches and after the seed has been extracted by them, the seed-heads are decorative adornment for the house. Teazle also possesses cavities at the axils of the leaves which are always filled with water to which in droughts birds will pay frequent visits. There is, however, one important exception to our aim of cultivating only indigenous species which we must make, and that is the growing in large quantities of the Annual Russian Sunflower so frequently seen in cottage gardens. Its large flat disc of seeds, white, black, or striped, is an unflinching magnet to Titmice (especially the Marsh Tit),

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Finches, Nuthatches, and Goldcrests. If matured early, its seeds tempt the birds away from fruit. It is easy of culture and not particular as to soil.

So much for increasing the natural food resources of the sanctuary on the vegetable side. It must not be inferred, however, that the success of a sanctuary depends on the use of food-supplying trees and shrubs. They are but supplements.

Many gardens enjoy a sufficiency of wild birds without any special attraction in the form of wild fruits and berries, the feathered visitors being content to rely in hard and lean months on the prodigality of the gardener with artificial food alone.

Failing, or as a supplement to, natural food, we must provide artificial fare. It is true that the majority of us feed birds during the winter. This has become a ritual, but it is too often carried out in a casual manner and forgotten for days on end. Help to the birds must be consistent if they are to be tempted to remain with us throughout the year and not suffer severely during extreme weather. They rely on the food we supply when times are hard for them and a perfunctory offering of crumbs from time to time and in an irregular fashion is neither worthy nor beneficial.

If we are to attract as many species as possible we must offer food as varied as we can to suit birds of differing tastes—hardbill seed-eaters and softbill insect-eaters, omnivorous feeders and limited feeders. Thus we require rolled oats, coarse oatmeal, suet, boiled rice, potatoes, bread, biscuit meal, peanuts, ants' eggs, marrow bones, scraps of meat and fat, mealworms, and seeds, such as canary seed, hemp, rape, millet, and sunflower seed, and lastly, special puddings, if we are to satisfy every one of them and vary the monotony of winter scarcity.

Coarse oatmeal alone is an excellent food for both seed-eaters and insect-eaters, for it appeals to Greenfinches,

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Bullfinches, Chaffinches, Robins, Titmice, Hedge Accentors, Wrens, and Tree Creepers. Boiled potatoes will also be taken by these species as well as by Song Thrushes and Blackbirds, Starlings and Moorhens. Ground feeding is necessary in the case of the last named.

With the exception of sunflower seed, which is avidly taken by Titmice and Nuthatches, the various seeds mentioned appeal to Finches and Buntings only.

Special puddings can be made which have an all-round utility in a concentrated form. The ingredients are stale bread, suet, dripping, fat, raisins, or sultanas, and some of the foregoing seeds, all well mixed, warmed in a basin until coagulated and then turned out to cool. The substitution of currants for the raisins or sultanas is not recommended. Birds do not digest currants, they pass through their intestines intact. The advantage of using these puddings is that Starlings and other greedy feeders cannot obtain an undue share; also waste is prevented, for little drops on the ground as the birds fly away as is the case with bread and scraps of meat.

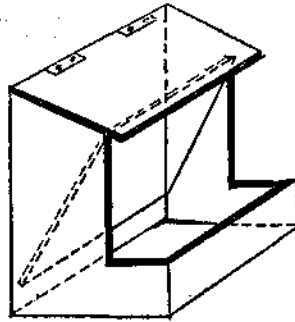
Scattering food for the birds on the ground is a practice to be deprecated. It is then an attraction to rats and an invitation to cats to prowl and pounce. Bird-tables, feeding-trays, and seed-hoppers should invariably be used. There is a large selection of bird-tables on the market, some being very ornate and decorative affairs whose practical utility is doubtful. Birds dislike heavy-looking contraptions with roofs and pillars; they fear a trap, and to such the more timid species are rare visitors.

No table is superior in practice to a light and simple tray raised on a central pillar beyond the reach of cats and, if you must have a roof, a plain one raised on a continuation of the central pillar. The only object of having a roof is to keep the food moderately dry, and if food is constantly being replenished there is really no point in a roof at all, especially as one can site a bird-table in a dry

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or sheltered corner. A tray top measuring 12 inches by 18 inches is ample. This size permits of the addition of a water receptacle, for water, during winter, is just as necessary to the birds as food. Birds become very thirsty during cold weather and will even continue to bathe then if they can find open water.

Trays, with or without roofs, can be suspended from boughs or outside a window and offer the birds even more security than those on pillars, as they are then quite inaccessible to cats and grey squirrels, and rats cannot consume the food overnight. Plain trays nailed to window-



Seed Hopper.

sills give quite satisfactory service to the bolder birds and added interest to the inmates of the house. They have the advantage of being replenishable from indoors.

Seed hoppers, such as are supplied for use in aviaries, having glass fronts through which the contents can be seen, are most useful for providing a continuous supply not only of mixed seeds but also coarse oatmeal and biscuit meal. The contents are kept dry under all weather conditions. A large hopper can be made from plywood to hold several pounds of food. The underlying principle is the constant supply of seed into a shallow tray beneath a glass-fronted receptacle by means of a narrow slit between the base of the glass—which is fixed in grooves sloping towards

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the back and base—and the tray beneath. When the hopper is filled from the top, for which purpose it should have a hinged overhanging lid, the weight of seed forces some to trickle out through the slit until the tray is full. As the seed is consumed more runs down into the tray, the husks being blown away by the wind.

Seed hoppers should be affixed to tree-trunks on the north or dryer side or on sheds, where they may be protected from the rain which may fall into the tray and choke the flow of fresh seeds. Hoppers possess the advantage of needing little attention and the state of their contents can be seen at a glance. A seed mixture as sold for cage birds, containing millet in variety, canary seed, linseed, and rape with some hemp added as necessary is eminently suitable. The addition of hemp is desirable in colder weather as this is a body-heating food.

To prevent greedy feeders from gobbling up everything within reach on a bird-table and wasting more than they can consume by dropping pieces everywhere, suet, scraps of meat, and peanuts should be contained in a cage made from small-meshed netting ( $\frac{3}{8}$ ths inch mesh). Peanuts are relished by Titmice, Greenfinches, and Nuthatches. These nuts can either be placed in a special cage receptacle or else threaded like a necklace of beads on coarse thread and strung suspended from the bird-table to a convenient bough or window-frame. The antics and agility of the birds in detaching the nuts and the industrious searching of the ground beneath by Robins, Hedge Accentors, and Chaffinches, who lack the others' ability, for bits which fall from the hammer blows of the Titmice, provide endless interest and well repay the trouble and time involved in threading the nuts. We have seen as many as fifteen Tits, comprising Great, Blue, Coal, and Marsh Tits, on a necklace simultaneously, attended by several Greenfinches, who occasionally fluttered near the nuts for long enough to be able to detach some portions.

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The use of mealworms should be limited to Robins and Tits. The former can be tamed to take these larvae from the outstretched hand. Of this more anon. Mealworms can be obtained from cage-bird dealers or can be bred at home in wooden boxes with perforated zinc bottoms containing coarse oatmeal and bran covered with sacking and maintained at a temperature of not less than 60 degrees Fahr. They are the larvae of a dark brown beetle, pupate easily and once a stock of beetles is obtained egg-laying and rapid growth of the larvae follows without trouble.

It is inadvisable to continue the supply of fatty artificial foods after the end of March, when birds begin to revert to natural fare. Supplies must then be tempered to their requirements, but, by using hoppers, seeds, biscuit meal, or oatmeal, can always be available should they evince a desire for such sustenance during backward seasons or sudden cold spells in early spring.

This policy of feeding birds in a sanctuary not only minimizes mortality among the birds during winter months but also retains them in a garden for later breeding and helps to attract others.

## LIST OF INDIGENOUS TREES AND SHRUBS SUITABLE FOR PLANTING IN A BIRD SANCTUARY

Alder Buckthorn	( <i>Rhamnus frangula</i> )
Blackthorn	( <i>Prunus spinosa</i> )*
Barberry	( <i>Berberis vulgaris</i> )
Gean	( <i>Prunus avium</i> )
Dwarf Cherry	( <i>Prunus cerasus</i> )
Bird Cherry	( <i>Prunus padus</i> )
Bullace	( <i>Prunus insititia</i> )
Dogwood	( <i>Cornus sanguinea</i> )
Elder	( <i>Sambucus nigra</i> )*
Hawthorn	( <i>Crataegus oxyacantha</i> )*
Larch	( <i>Larix europaeus</i> )*
Sycamore	( <i>Acer pseudoplatanus</i> )
Field Maple	( <i>Acer campestis</i> )
Guelder Rose	( <i>Viburnum opulus</i> )*

\* Suitable for nesting cover.

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Wayfaring Tree	( <i>Viburnum lantana</i> )
Bramble	( <i>Rubus fruticosus</i> )*
Sweet Briar	( <i>Rosa rubiginosa</i> )*
Dogrose	( <i>Rosa canina</i> )*
Wild Pear	( <i>Pyrus communis</i> )
Wild Apple	( <i>Malus pumila</i> )
White Beam	( <i>Sorbus aria</i> )
Service Tree	( <i>Sorbus torminalis</i> )
Rowan	( <i>Sorbus aucuparia</i> )
Spindle Tree	( <i>Euonymus europaeus</i> )
Strawberry Tree	( <i>Arbutus unedo</i> )
Wild Raspberry	( <i>Rubus idaeus</i> )
Gorse	( <i>Ulex europaeus</i> )*
Holly	( <i>Ilex aquifolium</i> )*
Yew	( <i>Taxus baccata</i> )*

\* Suitable for nesting cover.

## CHAPTER VI

### ENEMIES OF THE BIRDS

WHETHER it be created out of the wild or in a garden, a bird sanctuary is never exempt from enemies of the birds. Conditions suitable for one are equally acceptable to the other; just as a flower-bed will also grow weeds. A garden sanctuary is no less subject to the incursions of unwanted creatures than an open woodland, though necessarily in a lesser degree. Only in respect of its freedom from the rapacity and ingenuity of the collector, of whose discreditable actions much could be written, does the garden sanctuary surpass the public sanctuary or nature reserve. All alike are liable to visits from predatory animals and birds.

The only animals that need be considered as materially pernicious are the domestic cat, the brown rat, and the grey squirrel. The cat with stealth and guile stalks birds for the sheer lust of killing; the rat hunts for food and takes old and young and eggs; while the grey squirrel surpasses both in iniquity as an inveterate birds'-nester whose fondness for eggs is remarkable.

Every gardener is painfully aware of the cat problem, for their exclusion from a garden is impossible. When a garden is used as a bird sanctuary damage is intensified especially from cats allowed by their owners to fend for themselves under the mistaken impression that their ability as rodent destroyers is thereby enhanced. The assumption that cats, driven to hunger, concentrate on rats and mice is quite erroneous. More often than not such individuals take to the woods and are a pest to the neighbourhood.

The law protects the cat by treating it as a domestic



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animal while at the same time recognizing and excusing its natural propensity to stray and chase birds. Against the owner of a cat, the law recognizes no right of action by a person aggrieved or suffering damage through its straying and killing of birds, wild or tame. The Common Law, sensibly no doubt, recognizes that cats cannot be circumscribed in their movements in the same way as certain other domestic animals, such as cattle and horses. The dog is treated similarly, but Statute Law has stepped in and makes the owner of a dog liable if it chases cattle or poultry, but not otherwise.

The natural habit of cats of wandering is admitted and their owners are not held accountable for any misdemeanour committed by them. Hence in the case of *Buckle v. Holmes*, which was decided in 1926, and where a cat strayed on to land and destroyed some valuable bantams and tame pigeons, the owner was held not to be liable.

This is, of course, small comfort for the sanctuarian. Nor can he take the law into his own hands, for to take any positive action against a cat which would permanently harm it is to render oneself liable at law. The cat thus enjoys the best of both worlds, free to do what mischief it likes, where it likes, without redress.

The cat-proof fence has yet to be invented and is a very unlikely benefaction of the future. The only way to keep cats away from a garden sanctuary is to keep a dog. If he should prove a ratter his services will be doubly useful. His sallies after puss will not disturb the birds, on the contrary they usually appear to relish a dog's innate animosity for cats.

Although some cats capture rats, this expression of their predatory instinct in nowise counterbalances the damage they do and the cruelty they inflict on wild bird life. No right-minded person can honestly endorse the cat's sadistic instinct. Considering the enormous number of cats in this country, it would seem there is little truth in the

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claims their champions make for them as rodent destroyers. If there were, the rat weeks in which we now indulge in a belated attempt to thin our rodent population would be unnecessary.

Although the grey squirrel is even more destructive to nesting birds than the cat, he can be dealt with by shooting. And shot he must be without compunction. The grey squirrel is an alien foisted on our native fauna by misguided individuals who set it loose, having forgotten the lesson of the rabbit in Australia. It has almost displaced our native red squirrel who is a little gentleman whose whiskers are seldom yellow with egg and whose chief affection among young birds is for squab Wood Pigeons whose loss can well be afforded.

The grey squirrel is arboreal and terrestrial, and as such proof against any form of fencing. It will climb anything and exact a toll from any nest no matter what its position. When aloft its beady eyes are ever watchful for the disclosure by a bird of its nest. Although it does not chase birds like the cat—it does at least hunt for food and not from malice—it is a most expert birds'-nester whose depredations drive birds from a district with alarming rapidity. We know two wooded areas in Buckinghamshire whence nearly all small bird life has disappeared because of the large numbers of grey squirrels. After they have depleted an area the squirrels, too, pass on to pastures new.

The grey squirrel breeds in early spring and occasionally again in late summer, so that every endeavour must be made to extirpate it when the leaves have fallen and before the new buds open and birds begin to sing. It does not hibernate, hence it can be dealt with at any time, but it is obviously preferable to hunt it to extinction before it breeds. It must be treated as a pirate without any contrition whatever despite its disarming ways. These hide the cunning of the weasel and the treachery of the rat,



Plate 10.

REDBREAST AT NEST IN BANK (*Perisoreus*)



Plate II.

REDSTART AT NESTING HOLE (*Ruislip*)

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coupled with an unsurpassed agility and power of concealment.

Its havoc among wild birds is not the limit of its nuisance value. It is a menace to agriculture and (*inter alia*) an adept at stealing strawberries, not even waiting until the fruit has ripened, and will dig up bulbs of all kinds. It is a pity, after what they have to suffer from it, that birds should often be blamed for the actions of this little pest. We repeat, shoot every grey squirrel without delay; to defer action is to mourn the loss of the contents of many a nest.

The brown rat is the personification of cunning and is capable of concealing its presence for a long time, even going to the length of covering the entrance to its hole with dead leaves to disarm suspicion. Its fecundity is such that, breeding at the age of six months and producing four or five litters of anything from four to nine young each during a twelvemonth, its numbers increase with great rapidity, and extermination is extremely difficult. If the owner of a garden sanctuary eschews thick cover in large clumps and maintains open spaces between each small area of ground and shrubby vegetation, and never permits food, particularly cereals, to lie about, he should not be unduly troubled by the rat.

Sheds, wood piles, and other useful hiding-places help the rat. The fact that it seldom ventures far from cover of some sort can be turned to good account by our practice of dissecting a sanctuary into small clumps which can be inspected and dealt with individually. If rat holes are found, the simple expedient of inserting poisoned bait should prove adequate to drive the pests away, but baited food must not be left in the open where birds might sample it. The break-back trap is also useful but must be set up under cover.

While not hunting birds so seriously as the cat and the grey squirrel, the rat has acquired a taste for eggs and

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nestlings and will even, on occasion, take the brooding dam at night. It is so versatile that there is hardly a tree or bush it cannot climb. The use of broad bands of metal around tree-trunks where nest-boxes have been set up checks its climbing propensities and, if these are placed high enough from the ground, will also hamper cats. Any tree holding a feeding-tray or a seed-hopper should be similarly protected.

Man's best friends as ratcatchers are raptorial birds, particularly the Brown and Barn Owls and the Kestrel, although the last named only destroys the younger rats that are more venturesome during daylight. The rat is nocturnal and crepuscular and not normally diurnal, hence the nocturnal birds of prey make the most inroads into its population.

Whether predatory birds should be encouraged in a bird sanctuary has long been a matter for argument. Our view is that they should. It is a fact that such birds do not normally molest other birds nesting in the same area as themselves. They leave the surroundings of their own nesting-sites unquarried, though no Owl will overlook a rodent that prowls at night within the area. As a matter of fact Owls—with the exception of the Little Owl—do not habitually prey on birds; rodents form their main diet, but there is, of course, some individual divergence of habit. It is to this individual variation, often originating by accident through sighting an isolated or sickly chick, that the destruction of birds of prey by gamekeepers can be attributed in the first instance, fostered by an insensate objection to all creatures, whether of fur or feather, that may come near young game or rearing coops upon their lawful occasions. The grain thrown down near coops attracts rats, and if a Kestrel or other predatory bird swoops down in chase of fur it is forthwith accused of having designs on feather. The fact that one Kestrel may infrequently take pheasant chicks does not imply that all

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Hawks should be suspect. Some dogs chase sheep, but this does not give licence to farmers to shoot all dogs on sight as a precautionary measure.

In point of fact the increase in the rodent population as a result of the scarcity of Owls and their congeners through the selfish actions of game preservers redounds on their own heads, for rats cause infinitely more loss among eggs and chicks than could be inflicted by any of these birds.

In the case of the Little Owl, prudence is necessary. It is an alien which, like the grey squirrel, had settled down and spread. In the open country it is undoubtedly a useful species. Its food is 50 per cent. animal and 50 per cent. invertebrate and it destroys worms, beetles, wire-worms, grubs, lizards, rodents of all kinds, as well as small birds. It is in the proportion of the small bird life that differences of opinion arise among ornithologists. The position seems to be that in semi-rural areas where cover is scant and small bird life easier to attack the Little Owl consumes an undue proportion of birds in its diet and consequently can commit much damage in and around a sanctuary. It is therefore advisable to keep it in check wherever birds are protected. Being more diurnal than our other Owls it enjoys ample scope to kill small birds when it is so minded. Sparrows, Thrushes, Starlings, and Finches are the species most frequently taken.

Titmice nesting in proper deep boxes are safe from rats, cats, squirrels, and predatory birds, provided the lids are secure. Subject to this precaution, the weasel is the only enemy to be contended with for it can insinuate its slender form through a  $1\frac{1}{2}$ -inch entrance hole. Once inside it will destroy a whole brood, returning from time to time as hunger dictates. We have known a weasel so to gorge itself as to be unable to escape by the way it entered. Weasels, however, are infrequently found in garden sanctuaries and can therefore generally be dismissed as enemies of birds nesting there. Should one appear, havoc

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may ensue among the Titmice. Normally the weasel is a great destroyer of rats, such being its courage that it attacks the largest, even though heavier and stronger than itself. As such it is a most useful helper of the horticulturist.

Any catalogue of crimes necessarily creates an erroneous impression, an altogether false perspective of the general picture of life. If the owner of a garden sanctuary is circumspect in his examination of nests so as not to leave signs on the ground that might lead to their discovery by natural enemies; if he is ever watchful and alert for unusual behaviour on the part of the birds, seeking the reason for bird notes of alarm; and if he investigates without delay any irregular occurrence, he should suffer little loss from the attacks of enemies of the birds.





Plate 12.

NEST OF NIGHTINGALE (*Ruslip*)

[p. 58.]

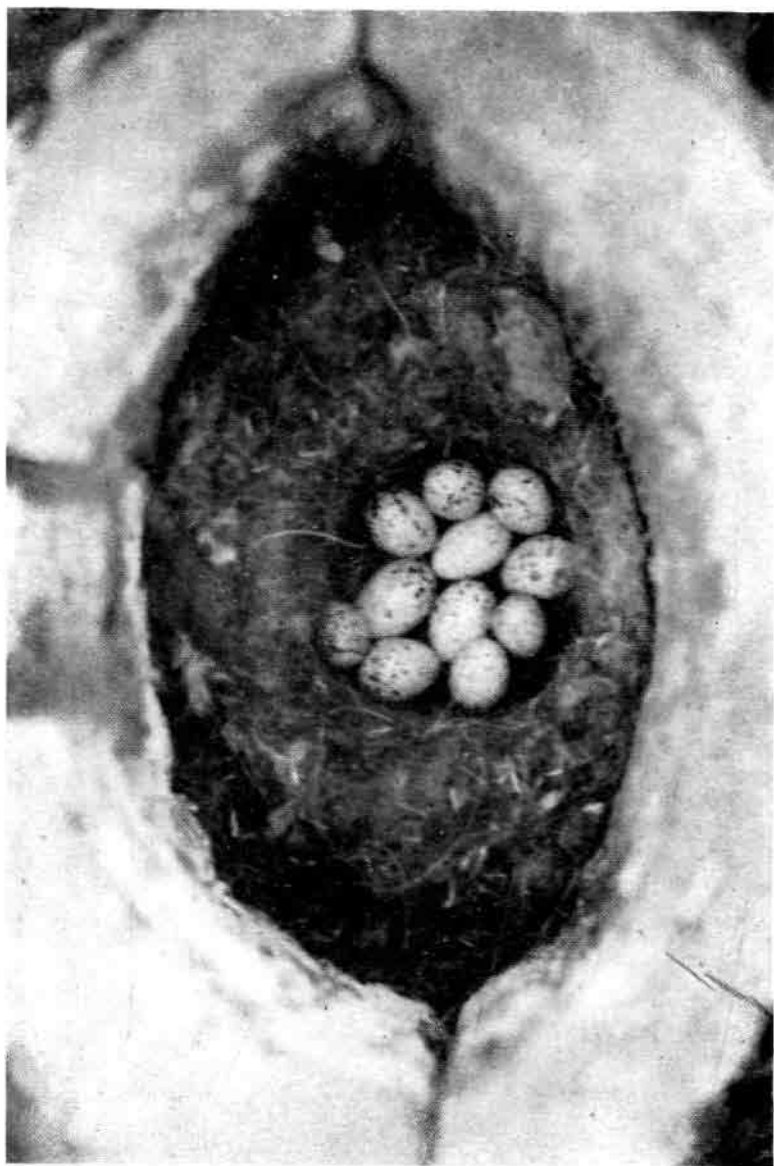


Plate 13. NEST OF GREAT TIT IN STUMP BOX (*Ichenham*) p. 59.

## CHAPTER VII

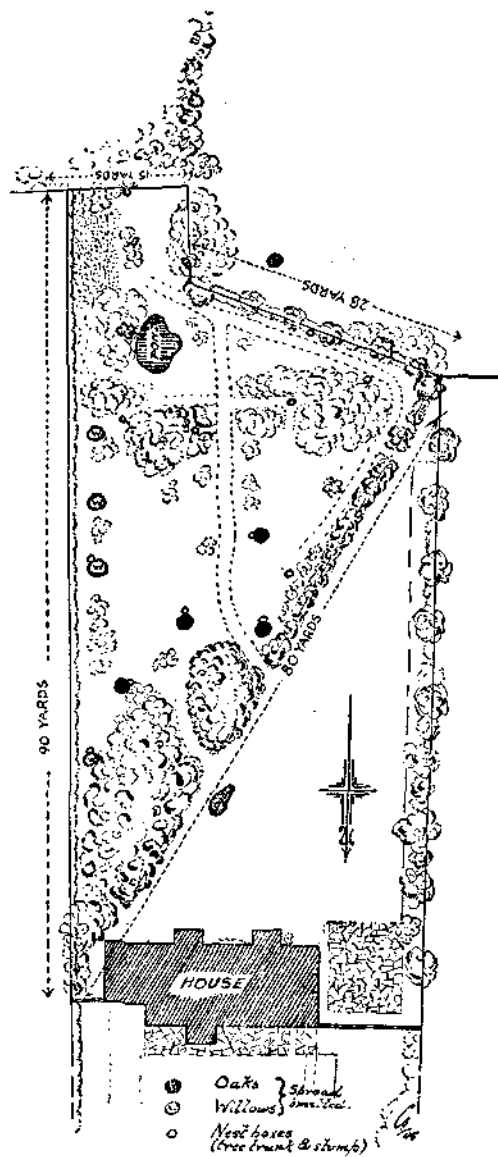
### A SANCTUARY IN BEING

THE facts, principles, and suggestions enunciated in the preceding chapters are based on practical experience gained in the Perivale Sanctuary of the Selborne Society and in our own garden sanctuary. Our object has been to explain as concisely and clearly as possible the main factors which go towards the creation, and what must be guarded against in the maintenance, of a garden sanctuary.

As assistance in the formation of a successful reserve, a description of our own garden sanctuary and of the methods employed in bringing it to its present prosperity may prove helpful. It is typical of the kind of reserve that can be constituted in a medium-sized garden situated on the outskirts of a built-up area and applicable to the ordinary birds of the countryside, without possessing any outstanding or unusual features.

While it has been our aim to make the whole garden attractive to birds, the sanctuary proper forms only one-half of it, at the rear and due south of the house. The garden is conveniently bisected diagonally by an old field hedge of hawthorn and it is the eastern of the two triangles thus formed which is the sanctuary. The other half of this garden, consisting of lawn and beds, is bounded on the west by a secluding screen of poplars, silver birches, flowering cherries, crabs, and mountain ash running the whole length of the boundary fence. The eastern boundary of the sanctuary is a continuous hedge of privet, and measures approximately 90 yards long. The diagonal hawthorn hedge is about 80 yards in length and the

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Plan of a Garden Sanctuary.

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sanctuary so formed rather less than 1,400 square yards in area.

The sanctuary proper is woodland in character and has the merit of containing several types of tree and undergrowth. Commencing from the northern apex, there is a coppice of hawthorn, blackthorn, willows, and a large ash. This is followed by a clearing containing four mature oaks which, through close proximity, have grown tall rather than broad and spreading, while beyond this clearing and forming the whole of the southern part of the sanctuary there is an open space containing clumps of gorse, and bramble, interspersed with some alders, elders, and hawthorn and odd specimens of indigenous flowering and fruiting shrubs and trees. Alongside the eastern hedge of privet runs a line of alders and willows, the latter having at some stage of growth been well cut back to form broad basal stumps, split and creviced and providing ideal nesting-sites for Redbreasts or Titmice. In the south-eastern corner of the open space there is a large rectangular patch of raspberries which are permitted to grow in a semi-wild state in conjunction with bramble and hawthorn. The southern boundary comprises another old field hedge of hawthorn, elder, and willow saplings. Thus the whole of the sanctuary is enclosed within natural hedges.

The southern hedge separates the sanctuary in part from a rough wood and in part from a coarse meadow, while at the edge of the wood immediately behind this hedge is a large oak—a splendid specimen of mature proportions, with a sturdy trunk and broad, rounded outline so typical of the species when growing in isolated and congenial conditions. On the field side of the hedge there is a narrow clump of blackthorn and bramble.

The garden proper, being chiefly lawn, provides an ample open feeding ground for Thrush, Blackbird, Robin, Finch, and Starling, from which they can quickly take cover in the sanctuary hedge. The provision of grassland

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as an open feeding ground has been found of outstanding utility at the Perivale Sanctuary, and the lawn in an average garden performs the same purpose when it immediately adjoins the portion set aside as a sanctuary. By walking along the outskirts of a wood during early morning and in the evening, one appreciates the use made of adjoining grassland for feeding purposes when insect life is out and about. Birds do not venture far from cover and at the slightest alarm dart into a wood's shelter and security.

The wood at the rear of our sanctuary is of the standard and coppice type, but rough. The trees are chiefly elm and oak with a few ash and hazel. The undergrowth is sparse owing to neglect of good arboriculture. No cutting back and thinning appears to have been carried out for years, with the result that sucker elms have sprung up in all directions to the detriment of their own expansion. They are slender in growth and attenuated in habit, and while providing little cover themselves are sufficiently thickset as to choke any low cover that attempts to subsist. There are, however, two clearings in this wood, covered with bramble and having a few dense bushes of hawthorn, and one bramble-fringed and well-defined track, which appeal to Warblers. In other respects this stretch of woodland is unsatisfactory for small bird life owing to lack of suitable cover. Blackbirds, Song Thrushes, Robins, Chaffinches, and other common species are present in fair numbers, but other ground or near-the-ground breeders are few. The Tit population is definitely sub-normal.

Although the district is damp—the soil being of a tenacious clayey nature—there is no water in the shape of pond or stream in the immediate neighbourhood of this wood. This lack of water is, in itself, a grave deterrent to any profusion of wild bird life.

Such is the simple outline, the bare skeleton, upon which an efficient and successful sanctuary has been created and built up. The area certainly contains conditions and

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natural features compatible with elementary requirements. Its basic division into coppice, clearing, and open space has been fortuitously appropriate. Having lain vacant for several years the property had become overgrown and unkept. Coarse grass, thistles, docks, and sorrel, all knee high, covered the lawn and beds; hemlock, willow herb, sorrel, bindweed, and bryony were luxuriating among the brambles and gorse, choking the intervening spaces, and by mature and matted growth had obliterated pathways. Elders and hawthorns had been drawn up into thin and straggly growth to reach the light and air, while brambles and gorse were indescribably mixed in tangled growth below. Thus, in opposition to the usual experience, we had to clear the wild to make a sanctuary. Preliminary search disclosed few nests of past seasons, and during the process of clearing the area with scythe and rake little evidence was forthcoming of any tendency on the part of birds, other than Thrushes, Blackbirds, Hedge Accentors, and Chaffinches to resort to the area as a breeding ground. The paucity of nests confirmed the truth of the assertion that birds do not normally breed in rank, overgrown wildernesses, where thickset growth is continuous like a deep-piled carpet.

After preliminary clearing no major alterations or additions were attempted, reliance being placed on the outcome of breeding results of the ensuing spring for an indication of the changes necessary. Meanwhile a bird-table was kept well stocked throughout the winter, and as time went on it was apparent that the number and types of resident birds were rapidly increasing. During the first autumn four nest-boxes for Titmice, two kettles for Robins and Wrens, and two trays for Spotted Flycatchers were set up in appropriate positions. Came the spring and with it the migrants whose character and quantity had been conjectural but awaited with pleasurable anticipation and somewhat optimistic hopes. It is to these visitors from

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overseas that one annually looks forward in the prospect that some rarer or curious species may settle down and breed. One has visions of Nightingales, rare Warblers, Shrikes, and some other unusual garden visitors accepting one's hospitality. As a matter of fact, Nightingales did come and sing awhile, but finally decided to nest elsewhere. During that first season, Willow Warblers, Chiff-Chaffs, and Spotted Flycatchers visited, and the first named bred in the sanctuary. All the tit-boxes were tenanted, while Robins, scorning to use the kettles so carefully provided for their satisfaction, nested in the hedgerow bank beneath one of them and successfully reared four youngsters. There was one nest each of Song Thrush, Blackbird, Hedge Accentor, and Chaffinch. A small but not unpromising beginning.

Throughout late summer and the succeeding autumn the clearing policy was bearing fruit in the thickened basal growth of gorse, blackthorn, and elder. The brambles were becoming less attenuated, the ground herbage greener and denser, and the direction and scheme of future development made clear by the preference displayed by the birds for various sections of cover. One patch of gorse on the eastern side of the sanctuary was ignored by them, while another clump on the western side was tenanted by Hedge Accentors, Chaffinches, and Song Thrushes and visited by other species as if intent on home-making.

The sterile patch of gorse—measuring some 30 feet by 20 feet—was irregular in growth, some stems attaining a height of 8 feet, while others were forced downwards to the ground by the embrace of brambles seeking to root at the tip as is their habit. Sunlight could not penetrate to the withered basal shoots while alders and hawthorn were struggling through the matted growth, and brambles spreading apace. It was decided to experiment by drastically cutting back and thinning this clump. Most of the



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gorse was cut down to within 2 feet of the ground, only the eastern fringe being left untrimmed; a portion of cover was grubbed up from the centre; the brambles were cut back and some uprooted and the whole patch thoroughly thinned and cleaned up.

Results amply justified this treatment, for the succeeding summer saw Chiff-Chaffs, Greater Whitethroats, Willow Warblers, and Blackbirds breeding in this previously untenanted cover, and the Whitethroats and Chiff-Chaffs still breed there. Every season now produces nests of Blackbirds, Song Thrushes, Hedge Accentors, and two low tree-trunk nest-boxes, which were installed later, one in the cleared centre section and the other against the tall gorse at the south-eastern corner, have been invariably used season after season by Great and Blue Tits respectively. In one season alone, eight species of bird have reared broods in this small patch of cover.

Subsequently the other patch of gorse on the western side of the sanctuary was similarly treated and opened up by the cutting through it of two paths, one east and west, and the other north and south, thus dividing it into four sections. At the intersection of these paths a tree-trunk nest-box was installed, and within a week was tenanted by Blue Tits, who annually raise a brood in it. As this was the first box of this type, its rapid acceptance was most gratifying, particularly as the Tits in question had already commenced to build their nest in a box of rectangular shape affixed to a nearby oak.

This gorse patch has also improved as a nesting area and now normally contains nests of Song Thrush, Hedge Accentor, and Wren. The Song Thrush never fails to build its nest in the same gorse bush and almost in the same position each season, being as regular as clockwork in commencing domestic duties. Long-tailed Tits have had designs on a tall gorse for a nesting-site, but have never gone beyond viewing the property; some day we

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confidently expect them finally to join our steadily increasing list of permanent tenants.

The raspberry brake in the south-eastern corner is raked through annually in the autumn to remove the dead canes and the dried stems of campion and hemlock. Otherwise the area is permitted to grow untended. The crops are fair and when the fruit is overripe in July Blackcaps and Garden Warblers are frequent visitors. Our nesting pair of the former take their fledged young there to search for the last of the fruit and the caterpillars on the leaves. As for the Garden Warblers, they are undecided where to nest as they alternate between the clearing in the wood at the rear of the sanctuary and a patch of young blackthorn near the western hedge of the sanctuary, but they are regular visitors to this raspberry brake.

Improvement of the remainder of the area has been constant. The copse has been cleared of some of the blackthorn, and larch and common barberry planted where it joins the clearing. Elders, hawthorns, and young gorse have been added as cover wherever expedient, and berry- and fruit-bearing trees have been planted in spaces otherwise useless for nesting-places and as additional security in parts of the hedges that have become thin. These include the spindle tree, the wayfaring tree, the double flowered form of the Gean (*Prunus avium* fl. pl.), the white beam, larch, bullace, and guelder rose, the form in this case being Notcutt's variety of *Viburnum opulus* sterile, which is a fine berrying type. Sweet briar and dogwood have also been planted, the former as nesting cover and for its aromatic scent, the latter as winter decoration.

The quota of nest-boxes now numbers fifteen, ten being tit-boxes on tree-trunks, hedge-posts, and in the bases of willows, and four being low and one being a high isolated tree-trunk box, this latter being intended as an invitation to the Great Spotted Woodpeckers that persist in chipping the boughs on one of the oaks without appearing, so far,



Plate 14.

GREAT TIT IN STUMP BOX (*Ickenham*)

p. 66.



Plate 15,

GREAT TIT IN RECTANGULAR BOX (*Ickenham*)

[p. 67.

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to desire to nest in the sanctuary. This tree-trunk has been set up near the western patch of gorse to circumvent the Starlings who might otherwise annex it were it not for the fact that they resent having to perch on gorse as a half-way stopping-place.

A small rock bathing-pool was constructed on the lawn adjoining the coppice. This is a never-failing source of pleasure to the birds, particularly in the evening under the westerling sun, when there is a constant flow of Titmice of all kinds, Bullfinches, Chaffinches, Thrushes, Blackbirds, Robins, Willow Warblers, Chiff-Chaffs, Whitethroats, and Starlings, who, despite their dirty nesting habits, are clean in themselves and dearly love a bath.

A pond has been dug near the raspberry brake, backed by a large patch of bramble. This is surrounded with meadowsweet, purple loosestrife, *Ranunculus lingua*, and flowering rush, marsh marigold, and forget-me-not. A shallow bathing-bay is provided on its western side and it is hoped that the presence of this pond will serve to increase the numbers of Warblers and induce the Nightingales, in particular, to nest in the sanctuary.

Native flora such as primroses, cowslips, bluebells, woodland bellflower (*Campanula latifolia*), foxgloves, daffodils, bloody cranesbill (*Geranium sanguineum*), and others have been naturalized in various positions, and more will be added as seeds become available.

From small beginnings our sanctuary has in the course of a few years become a nesting reserve for at least twenty-five species including Blackcap Warbler, Garden Warbler, Great and Lesser Whitethroats, Willow Warbler and Chiff-Chaff, Bullfinch and Spotted Flycatcher, as well as other commoner garden species.

A pair of Red-backed Shrikes built a nest in the western hedge but were disturbed and gave up the attempt at breeding, while Turtle Doves, Long-tailed Tits, Marsh Tits, and Tree Creepers prospect each spring for nesting-

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sites, the Marsh Tits having gone so far as to commence to excavate a nesting cavity in one of the willows, but the wood proved too hard. A tree-stump box of the softer silver birch will probably induce them to settle down and there is every hope that all these prospecting visitors will ultimately be induced to take up permanent lodgings in the sanctuary. Of non-breeding visitors we have Great Spotted Woodpeckers, Green Woodpeckers, Tawny Owls and, of course, the Cuckoo who has not yet employed any of our breeding species as foster-parents.

It would be unreasonable to deny that the presence of the wood at the rear of our sanctuary, small and uncongenial as a nesting area though it is, does not affect the number and variety of birds we have, for any wood must attract wild birds as cover within which food can be found. The more suitable conditions prevailing in our reserve induces many of these to settle there, and in these circumstances we feel justified in asserting that the principles employed in the creation of our sanctuary appeal to wild birds more than an ordinary woodland. The number of nests each season are proportionately greater in our sanctuary than in this four acres of wood. During the past breeding season there were ten nests of Song Thrush and Blackbird alone, whereas we could not discover so many in the whole of the wood. A comparison in the numbers of the Tit family would be misleading for, owing to the acute shortage of natural holes and crevices, the supply of nest-boxes provides an unfair advantage in favour of the sanctuary.

Given birds in the neighbourhood and given the means of attracting them, experience shows that any garden can support its quota of wild birds. Where trees are absent, the fixing of nest-boxes on poles or the use of upright tree-trunk boxes, will give results until such time as suitable cover has matured. Nor should the use of nesting-trays and boxes on house walls, under eaves and porches, and in

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the corners of fences, be overlooked. Larger trays under cover of wall shrubs and climbers, in rose pergolas, or on sheds behind some frontal cover, will attract Blackbirds, Thrushes, and others. The nest-box for Tits is not the only artificial aid available to the suburban gardener.

Most gratifying has been the manner in which Blackcaps, Whitethroats, Lesser Whitethroats, and Garden Warblers have forsaken their former haunts in the wood and adopted the sanctuary as their breeding territory. In all cases there has been a gradual movement towards and into the sanctuary. The Blackcaps arrived, for instance, by three steps, until now their nest is annually built in practically the same position in the sanctuary. Even the Willow Warblers have gradually moved farther in. First they nested on the edge of the raspberry brake, the next season they nested beneath a tuft of coarse grass at the foot of one of the oaks at the edge of the clearing, the following year they moved farther into the clearing, and now their choice is the edge of the clearing near the entrance to the sanctuary through its western hedge. The distance they have thus moved nearer to the house is about 100 feet.

These actions clearly corroborate our claim that given suitable conditions and the necessary security birds will prefer to nest near human habitations. The nesting of these closely allied species in amity in this restricted area also exemplifies the fact that territorialism among birds is expressed exclusively between species and not against others of the same genus. The Chiff-Chaffs and the Willow Warblers are almost indistinguishable by plumage, and consume the same food, yet our breeding examples of these two migrants habitually share the same feeding area and site their nests within 15 feet of one another. Similarly, the two species of Whitethroat have their nesting-sites within 50 feet of one another and live in complete accord. As for the Titmice, who are not strictly territorial but nevertheless are normally jealous of their immediate

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breeding areas, they criss-cross one another's aerial pathways to and from their nest-boxes, hunt their food in the same oaks and willows, and generally act as if they were all members of one happy family.

It is gratifying too to be able to claim not less than thirty different nests each season, and a phenomenally low percentage of failures, despite the fact that the grey squirrel, the rat, and the wandering household cat are not unknown visitors to the sanctuary. The nesting birds or their progeny return year after year to nest in the same bushes, or boxes, and even in the same positions in gorse, elder, and bramble. For this reason, all old nests are removed each autumn and care is taken to ensure that cover previously utilized shall be retained so far as is possible in the same condition for future use. Small details like this are essentials to success and are well worth the time and trouble involved.

Much could be written with intimate details of the home lives of the various birds resorting to our garden sanctuary, but that is outside the scope of this handbook, although many of the facts set out in the succeeding chapters are based on personal observation. The results that we have been able to obtain demonstrate, we submit, in a practical manner that the methods employed are logically sound. While these measures may not be applicable in every garden, for gardens are diverse in form, type, and surrounding circumstances, there is every reason for proportionately equal success to be obtained by others who desire it and are willing to exercise patience and common sense. Even the owner of a suburban garden, circumscribed in its cover and bounded by wooden fences, need not despair of results provided he can erect one or two nest-boxes on house, shed, fence, or pergola, and supply some receptacles for Robins. Such accessories have been the means of adding interest and beauty to many gardens of this type.



## CHAPTER VIII

### GARDEN BIRDS IN GENERAL

WHEN we refer to a bird as being a garden bird we imply no strict classification, no limited habitat. As a matter of fact at least eighty species of British birds can reasonably be considered as potential frequenters of gardens, and of these the majority can be induced to breed in garden and orchard sanctuaries.

The scope of this book does not admit of detailed descriptions of all these species and their general habits. We therefore propose in the following chapters to explain the habits of certain species under sanctuary conditions and for this purpose propose to limit ourselves to such species as have bred either in the Perivale Sanctuary or in our own garden sanctuary. The descriptions and details furnished hereafter are intended to be supplemental to the facts afforded in a modern textbook which the reader is enjoined to acquire. One with coloured illustrations is to be recommended, such as Dr. Coward's *Birds of the British Isles* (Series I and II, Series III is not essential) or the abridged edition issued under the title *Birds of the Wayside and Woodland*, and in one volume, to which reference can be made for fuller details of plumage coloration, sex distinctions, and geographic distribution.

The details in the following chapters are based on the results of personal observations and experiences. If they do in any way differ materially from those provided by textbook writers it must not necessarily be assumed that such divergence is the result of careless or faulty observation on either side. It would be a cardinal error to impute immutable habits to any species of bird. More-

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over, the accurate recording and analysis of birdland incidents is never easy.

Furthermore, the owner of a sanctuary soon discovers that birds in a proper reserve lose their distrust of man and in the added security there afforded become less shy and retiring. In consequence, they are less excited or repressed in their reactions. That we can remove the lid of a nest-box and study at our leisure a brooding Blue Tit, stroke it, or even feed it with mealworms from our fingers, or have Chiff-Chaffs utilize our deck-chair as a half-way perch to their nest without concern for our presence, impels us to infer that in such conditions wild birds must, and in fact do, react more naturally than while they are under close observation in the wild where security is less and the awareness of danger more acute.

Birds can be classified in various ways. They are divisible into two main classes, the nidicolous and the nidifugous. The former have their young born naked and blind and requiring a period of development in the nest before fledging, while the others have their young covered with down and able to run and hide immediately they are hatched. The nidicolous class can afford to employ a short incubation period to allow of the later development of the young in the security of the nest. This period is 13 to 14 days in the case of the Thrush, and 13 days in the case of the Robin, and similarly for birds of like sizes. Nidifugous birds, on the other hand, must use a longer incubation period to provide for the advanced stage of development of the young on hatching. Thus the period is 18 days in the case of the Plover and 20 to 21 days in the case of the Partridge and the ordinary Barndoor fowl. In the case of nidicolous species, the period from the hatching of the eggs to the time when the fledglings leave the nest is usually equal to the incubation period, but, in certain cases, particularly where the power of flight and aerial acrobatics are essential to survival, the period of

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fledging is proportionately longer. Thus the young Swift takes 45 days to fledge against 17 days for the egg to hatch, and although the eggs of Titmice hatch in 12 or 13 days the young do not quit the nest cavity until 16 days afterwards. With very few exceptions birds that breed in the garden are all nidicolous.

Birds can also be classified according to the time and period of the year during which they adopt a particular habitat. They are residents, summer or winter migrants, or birds of passage. A resident bird is one that does not move far from the place where it was hatched and is, as a species, indigenous at all seasons. This does not mean, however, that individuals are not subject to local movements. On the contrary, resident species, as individuals, are subject in some cases to sporadic and dispersive movements and in others to orderly and rhythmic movements akin to true migration. The dispersal of first-brood young, the sporadic movements of Golden-crested Wrens, and the orderly flocking and nomadic wanderings of Chaffinches and Titmice during the winter months are typical examples of resident birds not remaining wholly static.

A true migrant is a species having two distinct and widely separated habitations between which it regularly passes in orderly movements in spring and autumn. We are singularly rich in migrants, both summer and winter types. To the summer migrants, that come to us in spring from the southward, this is their homeland, the place where they breed, but to the winter migrants, that come to us in autumn, these islands form their winter quarters. The Swallow, the Cuckoo, and the Nightingale are summer migrants or summer residents, the Redwing and Brambling are winter migrants or winter residents.

Birds of passage are, strictly speaking, species that merely pass through this country, south to north in spring, and return in the reverse direction in the autumn, without any

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real pause *en route* to and from their breeding grounds to the northward or eastward of these islands. While we possess few true passage migrants, numerous individuals of our ordinary summer and winter migrants are passage migrants in that they form the forward wave of the rising tide of birds that covers our land and flows onward to the more distant breeding or winter ranges. The majority of our summer migrants are referred to both as summer visitors and birds of passage.

Furthermore, many species, in their individuals, may belong to two or more of these groups. The Starling, for instance, is a resident, a passage migrant, and a winter visitor, for we have a large influx of these birds from the Continent in winter that spread far to the west; while the Chiff-Chaff is a summer visitor from Africa, a passage migrant to Scandinavia, and occasionally remains as a winter visitor in our south-western counties. An understanding of these sporadic and rhythmic movements of many of our birds is of importance to the bird lover.

Lastly, birds are scientifically classified by orders, families, genera, species, and sub-species. The species is the unit. There are, however, varietal forms of geographic origin which, when constant, are raised to the status of sub-species. Hence the former method of scientific nomenclature by two Latin names, the first the generic and the second the specific is now superseded by a trinomial method where a third name, the sub-specific, is added. Thus the Coal Tit—formerly '*Parus ater*' now becomes '*Parus ater ater*' for the Continental type, '*Parus ater britannicus*' for our British sub-species, and '*Parus ater hibernicus*' for the Irish sub-species. Hence, where the specific and the sub-specific names are similar or where there is no sub-specific name provided, the bird described must be the type species originally identified and named. Also, when these two specific names are similar, we know immediately that some other geographic form or forms

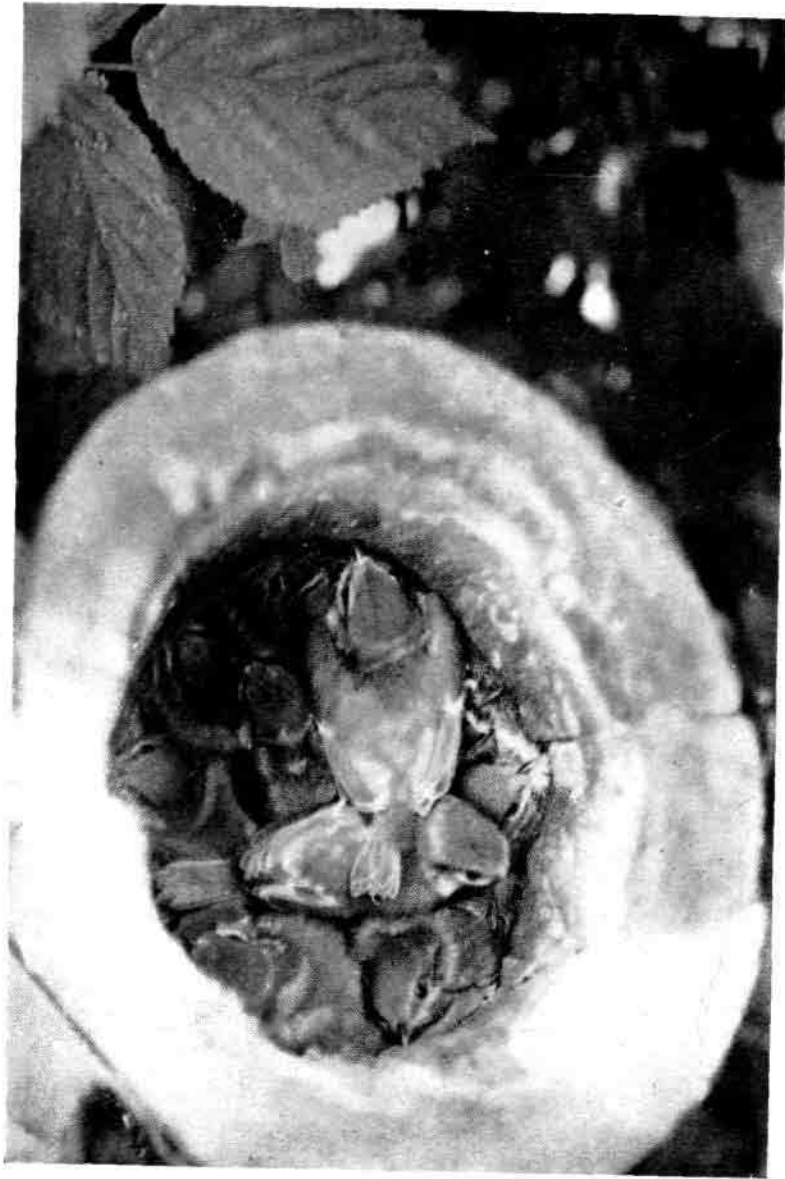


Plate 16, YOUNG BLUE TITS IN STUMP BOX (*Ickenham*) p. 74.



Plate 17. BLUE TIT AT WILLOW STUMP BOX (*Ickenham*) [p. 75.]

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exist. Where the bi-nominal naming is still retained in the latest lists, e.g. Fieldfare (*Turdus pilaris*) no geographic races have yet been accepted as existing, but it is easy to see that if and when this occurs the addition of a trinomial will be a simple matter.

This method of naming birds and other creatures is a form of descriptive shorthand universally understood and is not so academic in its scope as to be ignored by the bird-lover, for it shows immediately that many of our native birds are geographic races of typical Continental species, and are therefore of restricted range and liable to receive an augmentation in winter from the Continental forms, differing slightly in appearance from them. Some vary very very slightly yet are sufficiently distinct as to merit special and careful observation.

We are rich in small singing birds. Avian song is primarily a form of intimidation, the vocal expression of ownership, and is most highly developed in those species addicted to the territory habit who are not brightly coloured. It is thus the complement to the display of bright colours from a conspicuous perch which males of weak songsters such as Stonechats and Red-backed Shrikes employ to warn others of their own species from intrusion into their chosen habitat. The Robin, however, intimidates both by colour and song, and the hen Robin, who acquires a winter territory separate from the cock, sings during this period although she is songless at other seasons.

Song as a sex attraction and during courtship appears to be but an extension of that invoked by the territory sense and is not impelled purely by sexual excitement. A bird uses song to attract a female passing through its holding, and later sings to advertise the fact that it possesses both domain and wife. While there are some species that sing for no apparent reason other than a feeling of wellbeing, song in the main is an expression of challenge or triumph, of possession or defiance. This explains the

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use by many species of fixed song posts. How often does the Song Thrush use the same bough day after day and the Robin warble to us from the same fence post or garden stake.

Birds also employ joy, call, and alarm notes. Some species utilize quite a variety for expressing different emotions, while others make one or two suffice by varying the inflexion and rapidity of repetition to convey the necessary instructions to their mate and young. It is thus possible from the calls used and the manner and tone of their delivery to understand the cause and decipher the meaning of their utterance, even to the extent of ascertaining whether the bird has a nest, has eggs or young in that nest, or has young abroad, and whether its emotions at the time are those of fear, defiance, challenge, joy, or anger.

The ability to identify birds by their song and their call notes is of paramount importance. Many species are unobtrusive and only disclose their presence by their notes, while others are outwardly so similar, such as Chiff-Chaffs and Willow Warblers, Marsh Tits, and Willow Tits, as to be differentiated from one another by their vocal divergencies only. Every effort is therefore made in the succeeding chapters to describe the songs and usual call notes of the various commoner species dealt with so as to enable the reader readily to identify them in the field.

The conception of territorialism among birds is not new. It must not be confused with the aggressiveness displayed by nearly every bird in the area immediately surrounding its nest. Such pugnacity is indiscriminate. True territorial acquisitiveness is discriminate, an individual or a pair of a species holding a tract of land or an arboreal space against others of its own species but acquiescing in the intrusion of any number of individuals of other species.

The Robin is an extreme example of a territorial species inasmuch as it occupies both a summer and a winter territory. Let us follow the development of a young Robin



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to trace how a territory is acquired and defended. Until August an immature Robin lacks the red breast, which instead is mottled with buff. Until then it has consorted with its nest-mates after having been driven from the nesting area by the parents, and together the fledglings have led a semi-nomadic existence not far from their original home. Early in September moulting commences and the breast begins to redden. During this transitional period adult birds ignore it as it still lacks the real organ of aggression, a full red breast, and it is tolerated and moves about unmolested within their territories. Not until February or March does its breast assume a deep red shade. Internal changes now take place. It commences to sing and quarrel and to explore over a fairly wide area until finally settling down in an unclaimed holding of two or three acres in extent. This roughly defined area is the draft territory in which the bird remains feeding and singing its spring song, at first imperfectly but finally in full perfection from many fixed song positions which it has adopted from time to time while prospecting its staked-out claim. Gradually the range over which this loose control is exercised decreases in size, partly because other Robins have come foraging therein, or challenged our bird's right to parts of it, and partly because, as its aggressiveness increases with sexual change, the bird remains more and more near favourite song posts the better to intimidate intruders and advertise its occupation by posture, display, and song. Finally the headquarters territory may measure up to one acre.

Near human habitations where competition is greater a territory will be smaller and more of the order of half an acre and will, in many cases, impinge directly on to the holdings of other Robins. While in the open country a narrow strip of neutral ground may separate Robin territories there is no such tolerance near houses. Each territory is there sharply defined and disputes even arise

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over the ownership of a clump of grass or one side of a hedge or isolated bush.

Our bird's song now increases steadily in power and persistence. It becomes intolerant of other Robins, chases them and sings and postures at them aggressively by distending its throat and stretching its body so as to display the maximum of red, at the same time swaying from side to side with beak and tail pointing upwards, and singing a provocative warble. An intruder may also be met in mid-air flight, breast to breast. If the bluff is insufficient to force a retreat a combat may ensue wherein each antagonist seeks to peck out as many of the other's breast feathers as possible. These fights are more furious in appearance than damaging in results, but they do on occasion prove fatal to the loser.

A female Robin may pass through our bird's territory. He attacks her as if she were a male for he fails to recognize her sex unless she be physically ready for mating. She passes on. Another arrives. She, too, is intimidated, but she refuses to retreat and by her posturing is recognized as a female. Advances are made but she repels them and then there commences a period of sexual chasing interspersed with posturing with upraised beak and tail bent forward until the two almost touch, accompanied by a bobbing instead of the usual intimidatory sideways swaying. The male now sings persistently. These chases may go on for three days before coition occurs. When ready for mating, the hen asks to be fed, like a fledgling, with quivering wings and querulous calls. The male feeds her and when ready to commence nest building she will approach the cock with a leaf in her bill.

The nest is built. The male's song now gains in strength and purity. After the eggs are laid and she commences to cover them, he becomes less active vocally unless she should forage outside the territory at any time, or another Robin should trespass near the nest. The brood is hatched

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and the cock becomes silent. The brood is reared and after a few days of attention in the open, the fledglings are driven away from the territory and the parents recommence the cycle of sexual chase, song, and courtship posturing, and feeding, followed by the building of another nest in the holding, and the rearing of another brood. This brood, or a later one if a third be reared, will remain together longer than the first, sometimes being attended by the parents until August when all commence the moult.

When the moult commences, Robins lose their territorial acquisitiveness and become for a time silent and quite docile towards others of their kind. The parents separate and each, when the moult is over, acquires a winter territory or occasionally will divide a large summer territory between them, each keeping strictly to its own part and treating the other as a stranger. The female now commences to sing and continues to sing so long as she holds a winter territory. She also postures like a male. She is songless in the summer territory.

While it is unlikely that birds so addicted to non-social lives should pair for life, it is by no means uncommon for a Robin to obtain the same mate several seasons in succession or after an interval. A Robin may inhabit the same few acres all its life.

It is interesting to note that when the young are abroad both they and their parents may trespass with impunity on the territories of other Robins so long as the latter are also engaged in rearing a family. Should, however, these be then going through the sexual cycle of nesting, the intruding parents will be attacked, but the mottled young will not even be intimidated.

This broad picture of the territorial life of the Robin shows why it is that our friend of the garden disappears in early autumn to be replaced by a stranger, and may return in spring once again to attend our digging, and also why it is rare for two Robins to visit our bird-table.

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Territories are impermanent; they vary from season to season even though they may be occupied by the same individual. A bird may die, another may coalesce the vacant territory out of part only of the common holding and leave an area free for acquisition by another bird. Despite possession of a territory, a newcomer may by superiority dispossess the rightful owner and attach some part to its own territory or annex a once neutral area.

Through force of habit acquired during initial prospecting of the draft holding, a territorial bird maintains a settled route between various favourite song and vantage points. No matter for what reason it may subsequently visit these, the route from bush to bush and twig to twig is invariably the same. The bird makes and maintains a fixed path of approach and departure.

The male in birds is sexually mature earlier than the female and for a longer period. This is why the summer territory of our residents is acquired before nesting commences and why the males of summer migrant Warblers arrive before the females—the urge to nest impels them to migrate northwards before the females. It is a fact that even where the sexes are dissimilar in colouring, recognition between the sexes is only guided by posture, hence the need for attraction by song followed by intimidatory display leading to postural identification.

In the case of the Warblers, the territory life is little different from that of the Robin except that in their cases plumage colouring is not used as a display, and song is the primary means of intimidation. The singing immediately indulged in by Warblers on arrival is not so much an intimidation as an advertisement, for there is then not that need for threat to the degree exhibited by our resident birds, because at this stage Warbler territories are fluid. The competition to secure a mate as the females travel across the countryside is stronger. Later the mature song becomes the means of exhibitional intimidation.

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As with other species, adherence to fixed song posts now obtains, but aggression between Warblers is generally limited to chase and song rallies. Song replaces their power of display by colour or posture, their leafy habitat and preference for thicker cover induces this, except in the case of the Whitethroat, who chooses a more open habitat than the Blackcap or Nightingale, and engages in aerial excursions like a jack-in-the-box as a visual advertisement well calculated to exhibit its acquisition of a territory. It also indicates this fact vocally by singing as it jerks itself up into the air to descend again on fluttering wings.

It is interesting to note that territorial intolerance does not exist between birds that are outwardly so similar in appearance as to be difficult to separate, such as the Willow Warbler and the Chiff-Chaff, because their notes and songs are readily distinguishable; hence, though the Blackcap and the Garden Warbler are quite dissimilar in plumage, their songs are very much alike, and they are mutually intolerant.

A knowledge of the territorial habit explains much in bird behaviour which is otherwise inexplicable, and the custom is logical in conception. It will be noticed that it is rare in the seed-eaters or vegetarian types, but prevalent with insectivorae and carnivorae. Thus our Finches are non-territorial; the Buntings, being more insectivorous, are loosely territorial; and the Warblers, Hawks, Hedge Accentors, Robins, and Spotted Flycatchers, strictly non-social and territorial. Unfortunately some scientists have endeavoured to formulate rigid rules to govern its expression and extent so that its expedience has been largely misunderstood or over-stressed. The territory habit is, we submit from practical observations, subject to as much range of variation and apparent inconsistencies as any other bird habit, and any attempt to reduce it to rigid rules and expectations is to be deprecated as tending to credit more species with the habit than actually indulge it. Its effect upon the numbers of a practising species that will resort

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to a given area is of major importance to the owner of a garden sanctuary.

In the following chapters, therefore, we deal specially with this habit in so far as it reacts on garden birds in a sanctuary, and also provide particulars of the incubation and fledging periods of each bird, its song and call or alarm notes, and any details of its breeding economy that may be of special interest and significance to the sanctuarian, while at the head of each chapter the latest scientific nomenclature of each species, and the Order, Family, and Genus to which it belongs is provided so that the classification of each bird and its relationship with others may be the more readily appreciated.

It will be observed that the majority of our garden birds belong to the order *Passeriformes*, perching birds, as exemplified by the Sparrow (*Passer*). They all possess the typical four-toed foot, with three toes forward and the fourth pointing backwards and provided with an independent tendon to supply the power of grip.

This large Order is also noteworthy for the number of songsters it contains. In fact, there are few birds outside the group that possess a highly developed song.

The owner of a garden sanctuary will find true recreation in learning to interpret the language of the birds, to analyse their expressions, and appreciate their vocal reactions. Many an interesting and unexpected visitor to the garden only discloses its presence by its calls, and many a well-hidden nest escapes detection where ears are not employed as well as eyes.



Plate 18. BLUE TIT AT BOX IN LIVE WILLOW (*Ickenham*) [p. 82.]



Plate 19.

WILLOW WARBLER OUTSIDE NEST (*Ickenham*)



## CHAPTER IX

### THE THRUSHES

Order—*PASSERIFORMES*

Family—*TURDIDAE*

Genus—*Turdus*

Mistle Thrush	( <i>Turdus viscivorus viscivorus</i> )
British Song Thrush	( <i>Turdus ericetorum ericetorum</i> )
Blackbird	( <i>Turdus merula merula</i> )

ALTHOUGH all our Thrushes are recognized as songsters of merit, few listeners are able to differentiate between the songs of Song Thrush and Blackbird. Yet a comparative analysis of the two songs shows a constant divergence both in form and structure.

The Blackbird is undoubtedly the finer performer. Its notes are richer and more mellow; it is a contralto to the treble of the Song Thrush. In structure the song comprises a set phrase, a theme repeated at intervals interspersed with variable notes or a series of notes with considerable pauses between these and the basic phrase. There is a hint in the song of a striving after perfection of tone and delivery. But the Blackbird never produces a strong ending to its song. The final note invariably collapses with a hiss.

The Song Thrush, on the other hand, employs no set phrase. Its song is primarily an arrangement of short, inconstant phrases or separate notes used in an improvised fashion. They follow no definite sequence and the bird will frequently repeat a short phrase twice or thrice, and then choose another. The song is one of constant selection, and gives the impression of being built up on trial and error, as if the bird were seeking to please without

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satisfying itself in the result. Phrases like 'Did-he-do-it' 'Did-he-do-it' and 'Yes-he-did' 'Yes-he-did' recur promiscuously, and the bird also possesses the faculty of imitating short phrases from the songs of other birds. In brief, the Blackbird employs a melodic theme, like an accomplished musician, while the Song Thrush uses a disjointed repetition, like a composer creating a new musical arrangement.

The Blackbird's song-cycle is short, normally extending from February to July. It frequently sings on the wing when passing from one perching point to another. Its song is never appreciated more than in the early morning when it leads and adds tone to the dawn chorus and again at eventide, when it is about to roost. It is more catholic in its choice of song posts than the Thrush, and frequently performs out of sight in leafy cover.

The Song Thrush, on the other hand, is in song from October until July and is in effect only off song during the moult, but it reaches the peak of performance between March and July. It prefers to employ fixed song positions, generally choosing the top of a tall tree, and will sing more constantly and readily during the daytime, starting later and ending earlier than the Blackbird.

The Mistle Thrush, whose song is not so familiar, also employs a set phrase like the Blackbird. The song is loud and exultant and delivered from a high stance in a lofty tree in any type of weather. Snow, wind, and rain appear to supply added incentive and zest to its performance. The song is desultory but is delivered over long periods at a time. The notes create a feeling of wildness and melancholy; are loud and dominant; they ring but lack tune and perfection. The song is one of promise and hope for brighter seasons and pleases most during the wild weather of January and February when other songs are rare or imperfect. It is overlooked during later months when there are other and sweeter songs to please and delight the

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ear. Actually the bird is only silent while moulting during July, August, or September. Being our largest songbird, it deserves grateful thanks for its scorn of the elements and its joyous endeavour to proclaim gladness. The country name of Stormcock is singularly appropriate.

These three Thrushes are noisy birds employing a variety of alarm, call, and joy notes readily distinguishable and frequently uttered. The excitable temperament of the Blackbird is proverbial—well has it been named the ‘call-boy’ of the woodlands for it seems incapable of flushing from cover without emitting its loud, startled, rattling cry; a peal of alarm, a veritable jumble of clarion notes. There is little prudence in its make-up. Any unusual occurrence induces fear and impels a noisy reaction, either by a low anxious ‘cluck,’ a shriller ‘clink clink,’ or its rattling call rising crescendo to a chattering climax as it distrustfully flies away. At roosting-time, the Blackbird will ‘cluck’ and ‘tack tack’ incessantly and the notes then uttered are as anxious and apprehensive as those when a cat is near or some enemy approaches its nest. An efficient sentry in a bird sanctuary, the Blackbird signals to all wild creatures when danger threatens and prowling cats are soon disclosed by its noisy clamourings.

The alarm rattle of the Song Thrush is more modulated and is only uttered in moments of excitement, when flushed from its nest or suddenly confronting a natural enemy. Its normal alarm note is a soft ‘chuck’ becoming querulous and rapidly repeated when the bird is disquieted. Its roosting note is a clipped form of this note and sometimes harshens into a ‘tick tick’ monotonously repeated. When approaching its nest, a softer, more subdued ‘cluck’ is employed, and when feeding young in the nest or abroad, a quiet, tender twitter is emitted. The Blackbird, on the other hand, invariably gives vent to querulous clucks as it approaches its nest or young, which are deeper in tone and anxiety than those of the Song

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Thrush. The Blackbird seems always to return to its nest in a state of anxiety lest the worst should have befallen.

When nesting, the Mistle Thrush, normally wilder than others of its genus, becomes silent and secretive except when its eggs or young are threatened by a marauding Jay or other robber. Harsh and strident screeches will then be uttered. Its precocious nesting habits—for it may commence before the end of February, at a time when cover is scant—may have induced prudence.

Occasionally, however, Mistle Thrushes utter soft and quite melodious 'chucks' as they approach the young, but these notes are clearly of joy and not alarm. The normal alarm note, so frequently heard when the birds are squabbling greedily for winter berries, is a harsh, angry 'churr,' but a short challenging 'chit-chit' sharply repeated and delivered with accompanying jerks of wings and tail may also be used.

None of the Thrushes is addicted to the true territory habit. The so-called winter holding of the Blackbird is based on the fact that the bird pairs up in November and December and the intimidatory aggressiveness then displayed by cocks is founded more on sexual excitement and posturing before the females than any desire to acquire an exclusive feeding area. Whether the bird retains a territory is really of little consequence, for its pugnacity is ephemeral, and pairs of Blackbirds can be seen during the winter months seeking food on the same lawn in complete amity. The suggestion that it retains a winter holding may possibly have arisen from the fact that it is the least sociable of our Thrushes.

Notwithstanding their familiarity, the nesting habits of our Thrushes are of absorbing interest, and because they are bold birds, because they nest early, and because their choice of nesting-sites is varied and often open, they are ready subjects for study. Their disregard of man enables

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us to gain an insight into the domestic economy of nidicolous birds in general.

Most of us know the mud-lined nest of the Song Thrush and its sky-blue eggs, marked with spots and blotches of blue-black and mauve and the grass-lined nest of the Blackbird with its brown-speckled or reddish-brown blotched eggs on a greenish-white ground colour, while many have observed the untidy nest of the Mistle Thrush, built conspicuously in the main fork of some forest tree or atop a tall young elm, which, on closer inspection, will be found to be a looser-built edition of the Blackbird's nest, similarly lined, and to contain greenish-white eggs marked more or less regularly over the whole surface with blotches and speckles of grey and brownish-purple. All three species employ indiscriminately various materials for the outer framework of their nests; dried grasses, dead leaves, moss, and root fibres are common, and the Blackbird and Mistle Thrush will also use any of these for the inner lining of their nests.

Although generically related, the Thrushes differ basically in the purpose and to the extent that they use mud in the construction of their respective nests. The divergence is inexplicable, but constant. The Song Thrush uses it solely as an inner lining, the Blackbird uses it extensively as a reinforcement to the outer framework and also as the basis upon which to weave the grassy lining of its nest, while the Mistle Thrush uses little mud and then only as a rough binder to the main structure of the nest.

In the shallower structure of the Blackbird's nest we can recognize the past use of positions on large horizontal boughs and cavities in earthy banks. The bird still prefers a level platform upon which to nest, frequently choosing rafters in sheds and crevices in walls for that purpose. Notice how the outer casing and the upper rim of the nest are thickly and densely woven.

We can give no reason for the use by the Song Thrush

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of a hard mud lining, and can only wonder at the artistry and skill involved in its making and at the dictates of instinct which prompts young Song Thrushes in their first nesting season and without previous practice or parental example to fashion their nests so adroitly and with such precision. Watch how the hen Thrush brings beakfuls of mud, small pieces of rotten wood, and cow- or horse-dung and kneads them up together in the bottom of her nest and then plasters them evenly around the inside, working upwards until the whole is covered to within half an inch of the rim, and how she then weaves the grass, or moss, over and into the upper edge of mud and finally, using her breast as a smoothing agent, renders the whole of the inside perfectly circular by rotating first one way and then the other, even going to the trouble of wetting her breast feathers in a nearby pond so as to ensure that the mud shall not dry out and lose cohesion before the smoothing is completed. The result is as true as if it had been turned on a potter's wheel.

While the cocks of both Song and Mistle Thrush assist their mates in the construction of the main framework of their nests, the cock Blackbird takes no interest in this domestic duty. This, perhaps, may be the reason why many Blackbird's nests remain empty of eggs for several days, sometimes as long as a week, after they have been finished. Early pairing in winter, combined with her independent nest building, probably induces the female to start nesting before coition.

All our Thrushes lay clutches of from four to six eggs and employ an incubation period of 14 days. Congenial or inclement weather may, however, decrease or increase this period to 13 or 15 days respectively. One egg being laid daily, usually at the same hour, the garden bird-lover can foretell with some exactness when the eggs should hatch and when the young should leave the nest, for the fledging period almost invariably coincides in length with

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the incubation period, whether that be normal or varied by climatic conditions.

Young Thrushes are blind for the first four days after hatching, and are then closely brooded by the hen, to whom the cock frequently brings food which is received by her while standing on the rim of the nest, the easier to pass it on to the nestlings. Sometimes he feeds them himself, the hen rising from her charges and perching on the edge of the nest or flying away. Later the hen broods the young less, save during the afternoon, and feeds them more frequently than the cock, whose direct visits to the young decrease as they mature, he becoming more solicitous for their safety, while she is more interested in their upbringing. On every occasion of feeding the young the hen searches the nest for and removes any excreta, aided by the fact that this is enclosed in a membranaceous sac like a capsule. She either picks this up and drops it as she flies away or swallows it forthwith. As the nestlings mature they themselves ensure cleanliness by evacuating on to or over the edge of the nest.

We tend to ascribe to birds a maternal foresight and solicitude far superior to mere instinctive impulses. It has been frequently asserted, for instance, that birds designedly discriminate between their nestlings during the feeding process so as to ensure that none shall be fed out of turn, and that they accordingly remember which of them was fed at the preceding visit. The confidence of our Thrushes under close observation allows us to test this claim. It will be found that there is no such discernment by design. It is the result of satiation. Young Thrushes are well and frequently fed at intervals of fifteen minutes during the first week and twenty minutes during the second week after hatching, but the feeding cycle will be quickened between the fifth and tenth days of growth except during midday hours, when feeding is always sporadic. A sufficiency for two mouths is brought in the

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shape of worms, pecked into convenient lengths, grubs, caterpillars, and ground insects of all sorts. One observes that the young fed at one visit are less clamorous for food at the next, while those who are hungry, by their eagerness, obtain the parental offerings. Thus nature regulates the matter in a simple fashion. The fact that both parents feed the young independently in itself disposes of any claim to a pre-arranged sequence, and when both arrive at the nest simultaneously or in rapid succession, as frequently occurs, any question of favouritism is negatived, for all the young will then receive their quota of food.

Nevertheless, growth among young Thrushes is not always equal. One youngster as a rule is backward and it may remain in the nest for several hours, even a whole day, after the others have flown. Attention to this laggard always devolves on the hen.

Thrushes vary considerably, both specifically and individually, in their behaviour while breeding. Individually some are bolder and less concerned with security than others. This is not prescribed by the situation of the nest but is purely a personal trait which one observes season after season.

The Mistle Thrush tends to be more wary and secretive when nesting than the Song Thrush and Blackbird. Early breeding when cover is scant has induced caution in this bird, for Jays and other predatory creatures are frequent robbers of its nest. In consequence, one of the pair is always on guard near the nest. A hen Mistle Thrush broods her eggs and young lightly, flying off at the least provocation. Then the greyer colouring and the whitish under-wing coverts which apart from size always distinguish this bird from the Song Thrush are in evidence, while when viewed from beneath as it is perched near its nest the Mistle Thrush's rounder and more evenly disposed spots on breast and stomach can be remarked.



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The Song Thrush is not spotted on the stomach, and at the flanks the markings form striations. The cock Blackbird, whose interest in domestic affairs is slight, is noticeably more concerned at the safety of its nest than the cock Song Thrush, yet, when approaching to feed the young, the former is more indiscreet, incautiously flying direct to the site, while the latter will settle nearby and await a favourable opportunity to slip noiselessly down to discharge its mission.

It may be noted that hen Blackbirds vary considerably in coloration between two extremes. In one, the basic tone is dark chocolate brown with a buffish throat with dark brown spots on this and the breast, while in the other the general coloration is deeper, verging on to sooty-brown, and the throat is much lighter in shade, almost white in fact, with few markings on this or on the breast. The eggs of this species vary too. In the commoner type the markings consist of small brown specklings, while the other is boldly marked with spots and blotches of reddish-brown. Whether there is any association between the two extremes of plumage and egg, and whether young hen Blackbirds perpetuate the parent type of plumage or egg, we have not been able to determine.

Having regard to their catholic choice of nesting-sites in any type of cover—in heaps of faggots, on rafters in sheds, and barns, and even in declivities in hedgerow banks or on the ground amongst bracken—little need be done to induce either Song Thrush or Blackbird to nest in garden sanctuaries. With the Mistle Thrush the presence of a substantial oak, elm, or poplar is necessary but, despite being by nature a shyer creature than the other two, this Thrush, like them, welcomes nesting-sites near human dwellings, where interference by its natural enemies is lessened. All three will accept nesting-trays or open nesting-boxes larger but of similar type to those previously

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described for use with Spotted Flycatchers. Such aids should be set up at least 15 feet from the ground and preferably against a tree-trunk in a position immediately below some leafy outgrowth.

All our Thrushes become obstinately attached to a nesting-site once adopted and will return season after season despite some failures to rear their broods. Although the Blackbird will occasionally use the same nest for a second brood, the Thrushes in common with other non-social birds that nest in the open do not patch up and re-use nests of the previous year. Accordingly it is inadvisable to leave old nests *in situ* for fear that a suitable nesting-site should be lost and the birds driven elsewhere.

## CHAPTER X

### THE ROBIN AND ITS ALLIES

Order—*PASSERIFORMES*

Family— <i>TURDIDAE</i>	Genus— <i>Erithacus</i>
British Robin	( <i>Erithacus rubecula melophilus</i> )
	Genus— <i>Phoenicurus</i>
Redstart	( <i>Phoenicurus phoenicurus phoenicurus</i> )
	Genus— <i>Luscinia</i>
Nightingale	( <i>Luscinia megarhyncha megarhyncha</i> )
Family— <i>TROGLODYTIDAE</i>	Genus— <i>Troglodytes</i>
Wren	( <i>Troglodytes troglodytes troglodytes</i> )
Family— <i>PRUNELLIDAE</i>	Genus— <i>Prunella</i>
British Hedge Accentor	( <i>Prunella modularis occidentalis</i> )

THE Robin, the Redstart, and the Nightingale belong to separate genera of the Thrush family and their close affinity with our true Thrushes is apparent in the fledglings whose breasts are mottled, and their backs and heads spotted with golden-buff in the same manner as young Thrushes. The Common Wren and the Hedge Accentor (or Hedge Sparrow as it is commonly called) belong to distinct and separate families closely allied to the Thrushes having, as it were, developed along lines parallel with but nowhere overlapping the other three species.

The Accentors appear to embody the nature both of the Thrushes and the true Warblers, and systematists are at variance as to their precise position in relation to the two families and associated species.

The Hedge Accentor is thus a bird of mixed characteristics. That this quiet, unassuming creature should have received the opprobrious name of Hedge Sparrow is

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regrettable as being so inappropriate to its nature and habits. Apart from size and sober colouring there is no resemblance between the House Sparrow and the Accentor.

The old English name of Dunnock, of obscure origin, and the scientific name of Accentor, have never appealed to bird lovers. The latter is misleading, for although a songster of some substance it does not merit the title of the leader of the bird choir, either in the time or the quality of its singing. A persistent songster without being imposing, employing a set phrase in a high-pitched trill, its song is comparatively loud but lacks any distinctive feature save its unusual tone. The song is cheerful, yet it leaves no lasting impression, notwithstanding the vigour and perseverance of the performer. It is a frequent singer, especially in spring, trilling at all hours and even during darkness, and in common with the true Warblers adopts fixed singing posts within its chosen territory. Its other affinities with these birds have long since settled our preference for its less well-known but more agreeable name of Hedge Warbler.

Hedge Warblers have no sexual plumage differences and identify themselves by their short, jerky form of progression with shuffling wings as they diligently search the ground for small insects, spiders, grubs, weed-seeds, and other unconsidered trifles. The bird is unpretentious yet ubiquitous; shy and yet insistent, exhibiting an air of self-effacement and a desire of getting on with its own business. It is an omnivorous yet dainty feeder. Even at the bird table it prefers to remain on the ground to gather the crumbs that fall rather than join the bustling throng above.

To any rival of its own kind a cock Hedge Warbler can be the reverse of gentle. From December, when courtship begins, until March, when the nest is built, it will fight aggressively with any interloper upon its holding and chase and spar like any Robin. Its courtship is exuberant, the

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cock chasing the hen in and out of cover, posturing the while with quivering wings and flirting and expanding tail, breaking off from time to time to sing with joyous abandon. There is no aloofness when it is courting, for it advertises its affection from every vantage post.

Once the nest is completed, his manner changes ; there is a furtiveness and sedulous avoidance of song or posture near the nest. Any intruder is lured away and conducted to the limit of the territory by plaintive call notes and agitated flitting from cover to cover, but once the boundary is reached, the bird ceases its air of perturbation and returns placidly to its look-out post.

The familiar cosy nest with its sky-blue unmarked eggs is generally placed low down in thick cover, a height more than 3 feet from the ground being unusual, and evergreens are particularly acceptable. Gorse, privet, and even dense laurels will be used, hence shrubberies appeal to this species. Two or more broods are reared in a season from clutches of 4 to 6 eggs.

Although the Cuckoo frequently chooses the Hedge Warbler as its dupe, one often wonders how such an awkward bird can have insinuated itself into the thick cover surrounding some nests in which its egg has been deposited ; and bearing in mind the objection of the Hedge Warbler to large morsels of food, it seems possible that young Cuckoos reared by it must necessarily mature more slowly than those brought up by Pipits and other more normal feeders, notwithstanding the increased frequency of feeding which the voracity of the young Cuckoo imposes. Unfortunately we have never had the opportunity of making simultaneous comparative observations.

The incubation period is thirteen days, and the young possess a unique orange coloration to the insides of their mouths which has a luminous appearance. Having regard to the dark nest situations commonly chosen this may prove of assistance to the parents in allowing them to

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continue feeding for long hours. In actual fact, this species is an early and late feeder, being astir long before and after most other birds, the Titmice not excepted.

The hen broods eggs and young closely and will tolerate close observation with little concern, but is inclined to become less confident as the young mature. Both sexes will then greet any intrusion near the nest with shrill 'peeps' repeated with varying inflexions according to the degree of danger imagined. One can beat the bounds of their territory by inducing the cock to stage a conducted tour with vocal accompaniment.

The second nest will be built near the first, even in the same patch of cover. The young of early broods are soon driven away by the parents but are not as a rule sociable, though during the winter unattached Hedge Warblers will join groups of other small birds that move to farmyards and stubbles in search of food. There is very little seasonal movement among adults.

That we have had a pair of Hedge Warblers in our sanctuary for five successive years, always breeding in the same clump of gorse, and as there is invariably one pair present with us throughout the winter, leads us to suppose that this species may pair for life and retain its territory, throughout the year. Seasonal movements would only seem to occur among individuals that have either not acquired a territory or whose breeding territory is unsuitable in winter through flooding, excessive coldness, or some other disability. We have not been able by ringing, or by the assistance of abnormal plumage marking, definitely to identify these birds as being the same at all seasons; the circumstantial evidence provided by their constant air of confidence and familiarity coupled with the routine use of the same singing- and feeding-points encourages us in our assumption, though we accept the fact that conditions in their case may be so exceptionally congenial as to deter seasonal movement or sexual separation.

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The Hedge Warbler will resort to the barest of suburban gardens so that no special inducements are necessary for its attraction. As it is one of the few birds that will nest in shrubberies, suitable nesting-sites are common, but, in the absence of leafy cover, a bundle of pea-sticks or of dried bracken fronds and gorse fixed up in a convenient corner will often be accepted as a nesting-site.

In the Robin we have the garden bird pre-eminent, for a garden without its Robin is a rarity. The bird displays absolute trust in man and accepts encouragement and food as if of right. Constant association with this species tends, however, to obscure the fact that it is not a creature of cultivated areas only but is evenly distributed throughout woods, copses, lanes, commons, and hedgerows. Yet, no matter what its environment it will be attentive on our movements at all times and will fearlessly importune for food. One has, as it were, an appointment with a Robin, while one only meets other birds. Its adoption of a restricted territory and its friendliness towards man leads it to approach us wherever we may pause to picnic or rest by the wayside. Although more rigidly territorial than any other of our resident species, it would be idle to claim that Robins never consort together outside the breeding season nor feed at the same bird table in winter. On the contrary exceptional associations do occur, especially where a mated pair have bonds of affection which overbear the cyclic intolerance so characteristic of the species. But the inherent pugnacity of the Robin is limited to its own kind and contrary to the popular belief it is not normally aggressive towards other birds, although its possessive, even autocratic, approach to food on a feeding-tray creates the impression that it is intentionally contentious.

The song needs no description, for it is both recognized and appreciated by us all, particularly during winter. Then it has an air of melancholy fitting to the season. The Robin will also warble almost inaudibly either as a

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sign of contentment or as evidence of irritation. In the latter case the tone becomes provocative and more often than not is the *sotto voce* prelude to the challenge of another Robin that may be trespassing on its holding. The alarm note is the familiar clicking 'tick tick' accompanied by a bobbing of the head and flicking of the tail, and when unduly disturbed the notes will be rapidly repeated and run together into a skirl.

Robins are attracted to coarse oatmeal on a bird-table and are also passionately fond of mealworms. These they can be trained to take from the hand. The method of training is to throw a mealworm on the ground near the bird and, when this has been taken, to drop another near one's feet and remain quite still. Soon the bird will fly down, quickly snatch up the offering and consume it in a nearby bush or hedge. Shortly the bird will eat the larvae where they lie. The next move is to hold a tin lid containing the mealworms in the outstretched hand with its back resting on the ground. If the bird takes the larvae from this lid the transition to taking them from the palm of the hand on the ground and thence when raised to waist level will be quite rapid. Soon the bird will remain on the hand to feed and will fly to it from a considerable distance. Once a bird has been trained one must be prepared to have a tin of mealworms available whenever going round the garden, for the bird will flutter around until satisfied. We have trained many Robins and never encountered any difficulty in getting them to accept mealworms from ourselves or any friends within a very few days. The Robin will sell its soul for a mealworm, and when young are being reared both of a pair will help themselves to three or four at a sitting. How they manage to pick the creatures up separately and then retain them all in their beaks is a constant source of wonderment. Gentles, the maggots of the bluebottle fly, will also be accepted, but these should always be scoured in sand or bran before use.



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Adult Robins are difficult to sex. During spring the male is generally brighter than the hen and has a more distinct greenish band at the edge of the red breast. At all times the hen can be picked out by an expert by its broader crown which gives it a 'square-head' appearance when viewed from straight in front. Reliance on actual coloration is risky as Robins vary in the intensity of their coloration according to their age and the season.

The nest of dried leaves, usually oak, and lined with root fibres and hairs, is invariably well hidden. The choice of nesting-sites is catholic and often eccentric. Any crevice or cavity suffices. It may be in a tree-stump, or masonry; a nest-box, a discarded kettle or tin, or an upturned flower-pot, while sites in corners of sheds, on shelves and rafters, or behind ivy on house walls are common. Two and sometimes three nests will be built in a season, all in the same territory and usually quite close together. We had one season a pair that nested first in a roll of windolite lying at the back of a shed, then in a tit-box, and later in a rectangular nest-box wedged at the base of an alder, all the nests being spaced about 20 feet apart in a straight line alongside a path. Nests are not necessarily built at the centre of a territory and where covered accommodation is not available a slight declivity in the ground hidden by a tuft of coarse grass or other ground cover may be adopted. The female broods closely, and both the incubation and fledging periods are normally of thirteen days' duration. Both birds attend the young who, when fledged, display golden spots and markings on head and breast and upper back and do not attain the full red breast of the adult plumage until the succeeding winter or early spring, although red feathers begin to appear in September and continue to spread towards the centre of the breast which is the last portion to colour.

Many specimens of the Continental Robin (*Erithacus rubecula rubecula*), of which our sub-species is the western

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form, migrate to these shores in autumn, and some of our birds reciprocate by spending the winter in Western Europe. The Continental type has a paler breast and less brown on the flanks.

The migrant Redstart, arriving from Africa during the latter half of April and departing again during late August and early September, is locally distributed and is consequently not a frequent visitor to gardens except such as are near its favoured haunts, old oak woods with ample clearings and broad lanes in timbered districts. Although strictly territorial it advertises its acquisition of an exclusive holding by display and not by song.

The song resembles that of the Robin in its initial stages, but the ending is indeterminate, the song seems to tail off as if the bird did not know how to finish it. The colours of the male, an exotic effect in slaty-grey head and upper parts, orange chestnut rump, tail, underwing, flanks and lower breast, black throat, and white forehead, are well calculated to catch the eye as it perches in a conspicuous position or flits across a 'ride,' or moves spasmodically from branch to branch and stump to stump around a woodland clearing. The soberer-coloured female, brown above and paler below but with the same rich chestnut on rump and tail, is more retiring. She has no song.

The call note of this bird is distinctive, resembling the sound of two pebbles being knocked together followed by a querulous chirp which does not appear to emanate from the same bird. The calls are ventriloquial in effect. The alarm note is a plaintive 'wheet' or sometimes a disyllabic 'too-wheet' both closely resembling the corresponding calls of the Willow Warbler but slightly louder and deeper in tone.

The Redstart's tail is ever vibrating, both sideways and up and down. The side-to-side movement appears to portray pleasure, while the more normal up-and-down movement is indulged in when perching or moving on

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the ground where it bobs and curtsies like the Robin. 'Start' is derived from the old English 'steort,' meaning 'a tail,' and in some country districts the bird is known as the Firetail.

Crevices in tree-stumps, holes in old walls, and well-hidden declivities in hedgerow banks provide the usual nesting-sites of the Redstart, who is more of a cavity nester than the Robin. The loose construction of its nest, lined with hair and feathers, often white, and the pale unspotted blue of its eggs indicate that the use of a 'cave' in which to nest is more suitable than in the case of the Robin, with its red-speckled eggs and stronger nest of dried leaves, which are as appropriate to open as to covered situations.

The female Redstart is a very close sitter and incubates her eggs without assistance from the cock for thirteen days. The fledging period is slightly longer and may extend to fifteen days. The cock is very assiduous in his attentions upon the brooding hen and the young brood, continually hawking for insects around the clearing or along the lane and flying back to the nesting-site in an unconcerned manner quite oblivious of the presence of an observer. In all its movements it is direct and confident and shows none of the secretiveness of the Robin when nesting.

In gardens the Redstart will occasionally adopt nesting aids such as kettles, tins, and nest-boxes, but its favourite site near dwellings is a hole in a wall hidden behind a shrub or climbing plant. Once a nesting-site has been adopted it will continue to be used by Redstarts for many years. Only one brood is reared each season and the family remains together until the call of migration, the cock meanwhile acquiring an eclipse plumage wherein margins of brown and brownish-grey obscure the bright colours of the breeding dress. The young are brown, spotted like young Robins with gold, but distinguishable at all times by their bright chestnut tails.

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The Nightingale, more often heard than seen, will only frequent gardens where the soil is damp and loose bushy cover abounds or oak woods with large clearings are readily accessible. The tributes to its song have invested the bird in an aura of mystery. Like many another star, glamour has exaggerated its performance, for seldom is a specimen to be met that will provide in sequence all the beauty of the song; the water-bubbling note, the clear flute-like phrase, and that inspiring and unique 'rising crescendo on a single note,' without interspersing harsh notes and lengthy pauses. The song is never set and consists of several short phrases in no definite order or spacing. Like the Redstart, the Nightingale's notes are ventriloquial. Possibly this is the acoustic result of a low singing position in a woodland environment and may well be the means of ensuring freedom from opposition over a larger territory than that actually adopted for the season.

The bird arrives from the South in April, tunes up during the first week after arrival and is in full song by the middle of May, ceasing the moment the young are hatched in June. A few individuals, late in going to nest, may continue to sing until the latter part of that month. The Nightingale advertises its occupation of a territory by song alone, hence one frequently hears several cocks singing against one another from various patches of cover. If two cocks should meet they will spar like Robins with tails cocked forward over their heads and will also meet breast to breast in mid-air. They will also sing at one another at close range between bouts of fighting. The Nightingale is really more terrestrial than arboreal, seldom adopting a song post more than a dozen feet from the ground and feeding for the most part at ground level.

Like the Sedge Warbler, Blackcap, and Garden Warbler, as well as other territorial species, it can be induced to burst into song if a stone is thrown into undergrowth near it. Modern biologists, with their negative attitude,



Plate 20.

CHIFF-CHAFF AT NEST (*Ickenham*)

[p. 102.]



Plate 21.

HEN BLACKCAP ON NEST (*Ichēhan*)

[p. 103.]

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would have us believe that this reaction is unsuitable and is an example of the limitation of responses available to birds. They suggest that a bird sings in such circumstances because it has no other means of reaction available. Surely any tenant or owner of land who suffered the indignity of having a stone thrown on to his property would also react vocally. So it is with the Nightingale and other territorial owners. Their domain is being intruded upon and they quite logically advertise their occupation and right of ownership by vocal means. Such birds will also burst into song at the sound of a gun shot. On the other hand, Song Thrushes, Blackbirds, and other unsocial and non-territorial species, in similar circumstances fly away with a chattering alarm note. Doubtless our learned biologists if intimidated by a flying missile whilst on property without a claim of right would, too, beat a hasty retreat or querulously enquire the reason for the assault.

Never a cavity nester, the Nightingale places its deep-cupped nest of oak leaves either on or very near to the ground in thick cover, where its olive-brown, unspotted eggs are protective in their colouring. Although selecting damp woods and undergrowth in preference to other habitats, the bird is conservatively local in distribution. In some areas it is common, almost too common, while in others, outwardly similar and apparently equally congenial, it is unknown. The reason for the choice of a particular habitat is obscure and one must assume it lies in some necessary combination of soil, vegetation, and insect life. The drying of wooded areas previously frequented will drive the bird elsewhere. It no longer nests in the Perivale Sanctuary which has become progressively drier through the sinking of a nearby artesian well, and in actual fact the Nightingales refrained from returning several seasons before the aridity became apparent. There must have been some decrease in certain essential forms of invertebrate

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food which were dependent for survival on a minimum degree of dampness.

Given suitable conditions in the form of dense cover near the ground and damp conditions or the proximity of water, the Nightingale will nest in gardens with as much assurance as any Robin, and low clumps of honeysuckle or brambles with coarse grass clumps around them should attract the bird if other conditions are suitable. It does not, however, normally nest north of a line joining the Humber and the Severn.

The Wren is another species more often heard than seen, though when seen its diminutive size and perky cocked-up tail immediately distinguish it from all other small, brown-coloured birds. When forced to fly, which it is reluctant to do, its short tail and small rounded wings impose a direct, whirring, unsustained flight and it will dart from cover as if launched from a catapult, sometimes singing as it flies.

The song is noteworthy. The volume of sound is out of all proportion to the size of the performer and bursts upon the ear with such suddenness and impact as to leave an echo in the mind as the long musical trill ends as abruptly as it commenced. A few preliminary notes, and then the bird rushes through its song pell-mell, shattering the silence and then suddenly lapsing again into silence. Like the Robin it sings at any season. If it feels the urge to sing, it sings, there are no half measures about this busy little feathered atom, it goes about its business strenuously and efficiently.

It is one of the most sedentary of our birds and little seasonal movement takes place among our resident individuals, but we receive winter visits from specimens bred on the Continent, and there is some evidence of gregariousness during cold spells, for several Wrens will take shelter nightly in nest-boxes and other cosy dormitories.

Any garden with some cover, even if it be only a stack of



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faggots, will appeal to the Wren, and it is particularly fond of ivy-covered walls within the warmth of which it finds insects and spiders in winter. Its familiar domed nest with the entrance hole at the side and fashioned out of leaves, moss, grass, bracken fronds, and other materials that come to hand and lined with feathers, will be built in almost any situation, even in tins and kettles fixed up above ground level, tit nest-boxes, and occasionally in the open type of box used for Flycatchers. Even when constructed inside a cavity, the nest will be complete in every detail although the necessity for a domed top does not then arise.

Built with painstaking care, the nest may be a week in the making and the choice of materials appears to be fortuitous, although one comes across some examples that are marvels of protective skill in assimilation with their surroundings. Six eggs form the usual clutch, but the garden bird-lover must not be surprised if eight to twelve eggs are laid on occasion.

Several nests are built but only one is lined with feathers, the others, entirely the work of the cock, are, in our opinion, the expression of the territorial sense and form the cock's headquarters and are analogous to the song posts of Robin and Redstart. The hen does most of the work on the brood nest and most certainly is solely responsible for the feather lining. The fanciful suggestion that the hen chooses the brood nest from the cock's nests does not bear scrutiny, for time precludes the construction of these before nesting proper must commence, and in any event he continues to build them after the real nest is in use. In the case of a late mating, however, or the failure of a first brood, or for the rearing of the second brood, one of these may be adopted and lined with feathers. As a matter of fact we have known this to happen on several occasions.

The cock will continue to fashion these superfluous nests right up to the time when the young are due to fly, and his assistance to the female is perfunctory and only

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given between bouts of energy on his own nests and constant alarms and excursions with fussy 'churrings' interspersed with snatches of song. It is only during the last three days before the young are due to leave the nest that the cock becomes constantly attentive to their requirements. Later he shepherds the whole family party around the breeding territory with frequent calls and alarm notes. The call note is a modulated 'chip-chip' and the alarm note a harsh 'tick-tick,' becoming rapidly repeated and resembling, when the bird is unduly excited or angry, the clicking of the ratchet mechanism of a watch.

Wrens in adjoining territories will frequently sing at one another and engage in long song rallies until one of them defaults and retires from the contest, but although Wrens will fight on occasion, they are not actively aggressive and, being creatures of thick cover, do not advertise the limits of their territories by visual displays.

The cock's nests are used as dormitories for young and old at night, for they are positions of known security whence and whither the cock can direct the party. They are, moreover, free internally from feather scurf and insect parasites, while the lack of a feathered lining is no disadvantage during the warmer weather that succeeds the nesting period. Two broods are not uncommon, and the second nest, if not an adapted cock nest, will be built within the same territory as the first. The incubation period is 12 or 13 days and the nestling period a day longer. Early in the process of incubation the Wren resents interference. The garden bird-lover is advised to treat any Wren's nest with care and particularly not to stretch the entrance hole in seeking to ascertain its contents. Later on neither parent will be affected by close observation, even coming to feed their young when an observer is standing in full view only a few feet from the nest.

## CHAPTER XI

### THE TITMICE

Order—*PASSERIFORMES*

Family—*PARIDAE*

Genus—*Parus*

British Great Tit	( <i>Parus major newtoni</i> )
British Blue Tit	( <i>Parus caeruleus obscurus</i> )
British Coal Tit	( <i>Parus ater britannicus</i> )
British Marsh Tit	( <i>Parus palustris dresseri</i> )

Genus—*Aegithalos*

British Long-tailed Tit (*Aegithalos caudatus rosaceus*)

THE British Titmice of the Genus *Parus* form a compact group with similarities of plumage and habits. Each has a Continental counterpart differing generally from the British race by paler coloration only and from which we receive irregular autumn and winter immigrations. That there are these distinct races shows that our Titmice are rigidly residential species. Apart from the close resemblance between the Marsh Tit and Willow Tit (*Parus atricapilla kleinschmidti*), with which we are not specially concerned here although it may be encountered in gardens, there is no difficulty in distinguishing the various species, while the Long-tailed Tit, member of a different Genus, is readily identifiable by its long tail and pink flanks and the absence of any green or blue in its plumage.

The Great Tit is distinguished by its large size and white cheeks and black line running down the centre of breast and under-parts; the Blue Tit by its blue cap and absence of black anywhere; the Coal Tit, the same size as the Blue Tit, by its black head and neck with a large whitish patch

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at the nape, and the Marsh and Willow Tits by their plain black caps and chins. The reader is referred to a text-book for the field distinctions between these two species. Their exact distribution is still a matter of determination and very great care is necessary before they can be separated by plumage distinctions in the open; actually the timbre of their calls and some variations in these are the safest guides to their identification.

All our Titmice are more or less sociable in winter when they range the countryside in small parties, often of mixed species and with a few Golden-crested Wrens and Tree Creepers as companions. It is at this season when many a suburban garden where food is provided enjoys visits from all these birds. To birds of strictly insectivorous habits, co-operative food seeking is advantageous, particularly where the insect eggs and grubs are sought arboreally. The combined industry of many eyes and acrobatic bodies seldom overlooks groups of insect infestations on garden fruit-trees and bushes. The churring call of a lucky discoverer of a patch of eggs or a pocket of grubs beneath some loosened bark soon brings others of the roving band to share the spoils. Spiders, aphides, coccids, weevils, gall larvae, and other larvae hidden in twigs and leaves are all sought with unhurried efficiency.

With members of the Genus *Parus* winter gregarity is an expedience, but with the Long-tailed Tit it is a matter of family tradition, for each nomadic party is normally composed of one family that has remained together in the closest harmony since the young left the nest and will so remain until the call of spring enforces separation into pairs in February.

Such parties never remain long in one place and even the attraction of food and water in a garden will not detain them. We enjoy frequent visits from these wandering bands of Long-tailed Tits in our sanctuary and among the silver birches on our western boundary, but their stay is

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all too short. Sometimes they merely roost in the oaks and birches and pass on at daybreak.

Despite this nomadic gregariness of all Titmice outside the breeding season, they are not naturally social during the spring and summer, nor are they strictly territorial, although they will return year after year to use the same nesting-site. They are indifferently tolerant of one another when breeding. Such amity is no doubt dictated by the deficiency of suitable natural nesting cavities which tend to be concentrated in small but widely dispersed areas. In some woods, where periodical felling and lopping is indulged in, crevice-ridden tree-stumps abound where there are many nesting-sites for tits and other troglodytes, while in other woods of sapling growth, and in unlopped hedgerows, sites for nests are scarce. It is only necessary to set up a few nest-boxes to realize how acute the housing problem must be for the Titmice and how tolerant they are of one another when breeding and seeking food for their youngsters. Any type of box or cavity will be annexed, they are not in the least selective. They will nest close together without resentment, and are completely indifferent in seeking food in the same trees and criss-crossing over one another's routes.

With the exception of the Long-tailed Tit, all our Titmice invariably nest in cavities and crevices, but, whereas the Great, Blue, and Coal Tits accept natural crevices as they are, the Marsh Tit will sometimes excavate to enlarge an existing cavity or even chisel out a hole and chamber in a tree-stump like a Woodpecker. The Willow Tit, on the other hand, invariably chisels out its home. Both these species remove each tell-tale chipping of wood and drop it some distance away from the nesting-site. Owing to its softness and rapid internal decay, a stump of silver birch is the frequent choice for this purpose. The basal stump of a willow tree will also be employed. We have found evidence of attempts to excavate cavities in woodland

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boundary posts which time and the elements have debarked and softened. In the majority of cases the posts have proved too rotten or too slender to suit the birds, while Marsh Tits have frequently started holes in our willows but found the wood too hard.

With the Great, Blue, and Coal Tits, as becomes species addicted to home-making near human habitations, almost any form of cavity suffices. Ventilator gratings, spaces in brickwork, discarded paraffin cans and flower-pots, hollow lamp-posts, pillar- and letter-boxes, wooden pump-frames, spaces under eaves, as well as nesting-boxes, and natural cavities in stumps and tree-trunks, will all be utilized. Within the cavity and entirely covering its base a loose felted nest is built composed of moss, wool, hair, and some soft grasses. The cup for the eggs is lined with feathers, hair, and wool, and in the case of the Marsh Tit willow down may be added. Examination of dozens of Tits' nests in boxes and other receptacles of varying sizes shows that the cup is only centrally placed where the cavity is small. When it exceeds 6 inches in diameter or 6 inches square in the case of a bricked space or a rectangular box, the cup is disposed to one side and is usually in the position it would have occupied had the cavity been one of roughly 6 inches across. The inference is that a space of this measurement is the natural choice, and where it is exceeded the birds instinctively build the nest cup in relation to that size and not to the space actually occupied, which is filled up with moss, hair, and other nest materials loosely felted together. For this reason we recommend that nest-boxes should have an internal diameter of at least 6 inches and eschew the use of the small silver birch type so frequently sold.

Until the clutch of eggs is complete, feathers are disposed over them and, when the bird is brooding and leaves the nest voluntarily to feed, she will cover the eggs similarly. In view of the practice of so covering unincubated eggs, the object would appear to be protective and not heat retaining.

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It may well be that prying rodents are thus misled into believing a nest to be empty. The eggs of all our Titmice are white with red spots, varying in size and markings according to the species. The normal clutch varies between six and eight eggs, but in some cases, especially with the Blue Tit, twelve to sixteen eggs will be laid, which prolific lays have been assumed by many to be the work of two hens. We do not agree. Never have we known of more than one egg having been laid each day as would necessarily occur where two birds are involved. Moreover, it requires a stretch of imagination to believe that two hens would amicably utilize the same nest even if one only performed the act of incubation. We have had two Blue Tits that have habitually laid twelve to fourteen eggs in the same nest-boxes and there is no question whatever but that only one hen was involved in each case. The repeated irregularity is interesting. One of these birds has been under observation for four seasons, and her lays have been twelve, fourteen, thirteen, and fourteen respectively. On every occasion, except one when one egg failed to hatch and one nestling succumbed, the broods have been successfully reared. In the other case, the clutches have been eleven and twelve respectively, and here again all the young reached maturity.

Titmice are frequently double-brooded, and it is therefore not improbable that these large clutches represent, for some reason not at present apparent, the laying of the two clutches without a pause. Clutches of sixteen eggs are by no means uncommon. On the other hand, we find that one of our Great Tits habitually rears two broods in the same nest-box each season. This has been noticed for three succeeding seasons, the clutches numbering five on four of the occasions and six each in the other two. Our experience shows that Great and Blue Tits are normally double-brooded or lay large clutches equivalent in number to two normal broods; the Coal and Marsh Tits are

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infrequently double-brooded or layers of large clutches. The incubation period of all these tits is 12 or 13 days—generally the latter. All are close brooders. Great Tits will spit and hiss if disturbed on the nest and will bite the hand that seeks to touch them, and both they and Blue Tits will suffer themselves to be lifted bodily from their charges rather than leave them voluntarily. With frequent inspection of nest-boxes the dams become tame and will accept stroking of their heads and backs and will even take mealworms from the fingers. The Blue Tit raises its crown feathers, not so much in anger as excitement if interfered with while on eggs, and it is not unusual for this species to peck an intruding hand so vigorously as to hang on and be pulled from the nest as the hand is withdrawn.

The industry of Titmice when feeding young is proverbial. From dawn to dusk, with a short break between 2 p.m. and 4 p.m., their visits occur every few minutes. Although the hen alone incubates the eggs, both sexes feed the young with equal zest and will pop in and out of the nest-hole without regard to human observation at close range. On approach, each gives a warning churr, a harsh scolding sequence of three or four notes which is common to all the family but varies sufficiently between the species as to be a means of identification. If one parent is already inside, the other will wait its turn, but while the hen is brooding eggs or young, the cock will enter to feed her.

One pair of Blue Tits fed their ten-day-old young for fifteen hours and visited them on the average once every two minutes throughout that period. At least two caterpillars were brought on each occasion. Thus a minimum of nine hundred caterpillars were fed to the young alone on that one day. Taking into account the numbers consumed by the parents themselves, it is not unreasonable to assess the numbers of caterpillars and insect grubs destroyed by a pair of Blue Tits and their brood during the nesting period at not less than 15,000. When the young



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are fledged and leading independent lives, the amount of insect life destroyed is enormous. What myriads of larvae and imagines and insect eggs our population of Titmice must destroy annually? What potential harm from insect fecundity must be averted? We cannot expect any insecticide to be more efficient than these energetic birds.

Young Titmice mature with amazing rapidity. Eleven days after hatching they have all the appearance of being fully fledged, and the speedy transition from naked, helpless, and minute creatures to lively and assertive nestlings in such a short period is astounding. Unlike other passerine birds, whose period as nestlings is of the same duration as the period of incubation, the cavity-nesting Tits remain nestbound for 2 or 3 days beyond that on which one would expect them to leave; this is no doubt an evolutionary precaution enforced for the benefit of most troglodytes, for the young thus acquire that greater strength and power of flight, not to mention tail development, which is material to their survival through the dangerous early days after they leave the nest and wander afield. Furthermore, well-developed young make the task of the parents in marshalling and leading a large brood through the foliage much simpler.

During the last two days in the nest, the young clamber up the inside of the nest cavity and are fed in turn through the entrance hole. It is most diverting to watch head after head pop out inquisitively to be unceremoniously jerked back as the next applicant forces its way to the opening. Once the birds begin to leave the nest the movement is rapid, a brood of ten will all have departed within fifteen minutes and their excited calls of 'see-see-see' and the fussy churrings of the parents as they seek their whereabouts and endeavour to instil order out of chaos continue for perhaps half an hour thereafter, by which time, some semblance of order and obedience having been instilled among the inquisitive and precocious fledglings, the party

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passes into the woodlands. Happily young Titmice are quickly self-supporting and are naturally gregarious so that the trials of the unselfish parents are soon reduced.

The Long-tailed Tit is not a cavity nester but constructs a globular, or more exactly, an egg-shaped nest, out in the open. The most beautiful nest of all our native birds, it is a felted framework of moss, hair, wool, and spiders' webs externally decorated with silver lichen enclosing a feathered cell that may contain over two thousand soft feathers. This cell measures between 4 and 5 inches in diameter and the result is a cosy couch, resilient and warm. This jewel among nests is patiently constructed and may be two weeks in the fashioning. Its singularity is its protection, and when built among blackthorn is particularly apposite; in gorse, on the other hand, it appears unsuited to its surroundings. The perfection of skill in construction and concealment is attained when it is fashioned in the fork of a tree or in the crotch of a lichen-covered stump. A position in a forest tree at the break of some large bough and up to 40 feet above ground is commoner than believed, and is, in our opinion, the ancestral choice; the use of sites low down in blackthorn and tall hedgerows being a modern development dictated by the progress of civilization and the accompanying de-forestation of our countryside. When situated in tall trees, particularly those covered with lichen, the nest is almost invisible.

There is an entrance hole in the side near the top and across this hole one invariably finds a large feather which acts as a flexible covering. The part of the dome above the entrance is broadened and tends to overhang like an eave as if to keep the nest dry.

While eight eggs form the usual clutch, up to sixteen may be laid, and the same remarks anent double-brooding apply as in the case of the cavity-nesting Tits. One assumes the incubation period to be 12 days, but the feather-packed interior of the nest does not allow of careful check-

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ing without the risk of the birds deserting. The hen sits very closely. Her long rocket-like tail is a hindrance, but she overcomes the difficulty of moving it about amid a mass of feathers by leaving its tip protruding through the entrance hole alongside her head. An ingenious but effective solution. This corking up of the entrance hole and not the shape of the nest is the origin of the country name of Bottle Tit. To complicate matters, however, the cock persists in roosting with her in the nest at night and sometimes for an afternoon siesta. How two parents, with long tails, and a dozen youngsters manage to accommodate themselves in such a small cell without being suffocated or indescribably entangled is a matter for wonder.

Like the other Tits, the long-tailed species makes no attempt at secrecy when attending the young, coming to the nest quite openly at frequent intervals. Both parents usually arrive together and feed the youngsters through the entrance hole by hanging acrobatically on the outside. This species is not normally double-brooded and is not such an early breeder as is generally supposed, since the nest is so long in the making.

Although they are not songsters in the popularly accepted sense, Tits do, in the strict biological sense, possess true songs in that they utilize special notes and sequences during the mating and breeding seasons. The garden bird-lover should be in a position to distinguish all the species by their songs and calls, for they are sometimes hard to see among thick foliage or too agile to permit of steady observation for plumage distinctions at a distance.

The spring song of the Great Tit is familiar. A persistent and generally unvarying reiteration of two notes 'seeker-seeker' not unlike the sound produced by the up-and-down metallic rasp of a file on metal, it is one of the earliest sounds of spring. It soon palls but later the bird atones for its monotony by adding one or two more musical notes and occasionally emitting a bell-like 'pink-pink'

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hard to differentiate from the usual call note of the Chaffinch. In many cases this call is actually imitative of that bird and not all Great Tits utilize it. The disyllabic 'saw-sharpening' notes of the Great Tit are frequently mistaken for the call of that other harbinger of spring, the migrant Chiff-Chaff which, in consequence, is credited with an unduly early arrival. There is really no similarity between them either in pitch or tone, but the error is often made.

The alarm and call notes of the Great Tit are a harsh, rapid churring; a sharp 'see-see' and the metallic 'pink-pink' already referred to.

The Coal Tit, on the other hand, has a cheery little song, a short, rapid see-sawing 'silly-silly-silly.' It is quite distinctive and possesses more musical qualities than the songs of other Titmice. Occasionally it will end its song with a strident 'see.' Its alarm call is this note alone or the usual churring, which is more modulated and sharper than that of the Great Tit.

The song of the Blue Tit is a rapid tinkle interspersed with a sharp 'see-see-see' which is harsher in tone and also serves as an alarm or call note. Its harsh churring is familiar and expresses both joy and anger. It is a bird of rapidly changing moods, irascible, excitable, inquisitive, and provocative, each being expressed in varying tones of this same harsh sequence of scolding notes.

The Long-tailed Tit possesses few notes: a thin, reedy 'zee-zee-zee' and a louder and deeper double note sounding like 'zee-up' are the apparent extent of its repertoire.

The song of the Marsh Tit is a 'sis-sis-sis-see' and its call notes a 'chay-chay-chay' and a 'chik-a-bee-bee-bee.' The Willow Tit is only distinguishable from this bird by the more metallic tone of its calls and the fact that it sometimes uses an up-and-down 'ipsee-ipsee' not unlike the corresponding call of the Great Tit. Its other common call of 'see-see-see' is very high-pitched and lacks the additional two syllables of the Marsh Tit's call.

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Although one may express the call notes of birds in terms of human speech and sounds with some hope of recognition or analogy, it is impossible to convey by the printed word the nuances and distinctions of tone which so often serve to distinguish closely associated species. These two Tits are cases in point, for apart from differences in expression, the tone and pitch of their calls are quite distinct and recognizable to the practised ear.

The provision of suitable nesting-boxes for Tits has already been thoroughly dealt with in Chapter IV and needs no reiteration here save that the Marsh Tit may be induced to accept a tree-stump box made from silver birch. One about 5 feet in height should prove acceptable and the entrance hole need not be right at the top. Alternatively the creation of a nest cavity in a living willow bough should prove of advantage and this could be some 12 to 15 feet above ground level. The name Marsh Tit is a misnomer, for the bird inhabits dry woods, and scrubland where silver birch, alders, and small willows are to be found. It is the Willow Tit that is addicted to damp situations.

## CHAPTER XII

### THE WARBLERS

Order—*PASSERIFORMES*

Family—*SYLVIIDAE*

Genus—*Phylloscopus*

Chiff-Chaff (*Phylloscopus collybita collybita*)

Willow Warbler (*Phylloscopus trochilus trochilus*)

Genus—*Sylvia*

Garden Warbler (*Sylvia borin*)

Blackcap Warbler (*Sylvia atricapilla atricapilla*)

Whitethroat (*Sylvia communis communis*)

Lesser Whitethroat (*Sylvia curruca curruca*)

ALL the Warblers of our gardens are summer migrants, spending the winter in various parts of Africa and arriving here between the middle of March and the end of April. The order of their appearance is controlled for the most part by the distance of their winter ranges. The Chiff-Chaff, the earliest to arrive, winters in the North African countries, while the Garden Warbler, the latest to arrive, extends its winter quarters to tropical and Southern Africa. The Blackcap does not travel to such remote parts as the Garden Warbler, while the two Whitethroats do not appear to go south of the equator.

We cannot overlook the marvels and manifestations of the migratory impulse which causes these small creatures to span the continents bi-annually to return with recurrent regularity to the same area and even to nest in succeeding seasons in the same clump of undergrowth.

The territorial habits of the Warblers are not markedly different from those of our resident Robins, Hedge Warblers, and Stonechats. The males of migrants arrive



Plate 22.

COCK BLACKCAP ON NEST (*Ichenham*)

[p. 118.]



Plate 23.

NEST OF GARDEN WARBLER (*Perivale*)

[p. 119.]



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some days before the females and immediately they have found a rough territory commence to sing and are in fair voice when the females reach the area. After Warblers have paired the singing of the cock becomes more defiant and exhibitional because nest-building imposes delineation of the final territory and adherence to fixed song posts must now obtain. Actual physical aggression between Warblers is infrequent.

Lacking bright colours they posture little, song offsets this absence of visual challenge, and moreover, it is only by their notes that Chiff-chaffs and Willow Warblers, for instance, are readily distinguishable even by their own kind. The former are only to be separated from the latter by their darker legs and a slight difference in the wing plumage.

The song of the Chiff-Chaff consists of the constant repetition of two notes 'chiff-chaff,' 'chiff-chaff.' Occasionally there is an addition of a grace note between two deliveries. The notes have a metallic ringing quality suggestive of the sound of a fairy hammer striking an anvil 'tip-tap' 'tip-tap' or 'tip-tap-tip—tip-tap,' but when courting a low sweet warble has been heard which is not unlike the song of the Willow Warbler. This is uncommon and transient.

The Willow Warbler—the commonest of our migrants of this family—possesses a sweet song, a cadence which expires in a whisper. It is ethereal, starting with round pure notes and gradually dying away in descending scale and inflexion. It cannot be confused with any other song and is heard more persistently in the woodlands and open spaces and around our gardens during April and May than that of any other bird. Its very energy impresses its quality on the mind. Although pitched in a minor key it is tender and not plaintive and is expressive of quiet happiness with exquisite refinement. This melodic warble only ceases when the young are hatched in June.

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Individuals may recommence singing late in August, but never attain the quality of their earlier performances.

Both species use similar call or alarm notes, plaintive 'too-wheets' distinctly disyllabic in the ordinary way but curtailed to a simple 'wheet' when disturbed unduly or when approaching the nest to feed the young.

Although haunting the tops of trees, these two Warblers are terrestrial in their nesting arrangements. The Willow Warbler almost invariably nests right on the ground, but sometimes, especially in wet springs, a few inches above it. The Chiff-Chaff usually nests in thick herbage or at the base of a gorse-bush not more than a foot off the ground but like the Willow Warbler it will also nest on the ground. Both build domed nests, that of the Chiff-Chaff being rather an untidy structure. The Willow Warbler displays great ingenuity in so placing the nest that it shall be well hidden from above. Both line their nests with feathers and both sexes assist in nest-building. Construction is feverishly rapid and the birds appear then to lose all sense of caution, bringing materials and working on their nests without regard for human proximity. The alarm notes of the cock usually disclose the presence of the nest, and by their increase in strength and rapidity determine its position. The hens seldom flush until nearly touched or trodden upon, and when they leave the nest will flutter along the ground feigning a broken wing in an endeavour to lure an intruder from the area. Once they realize the subterfuge is unsuccessful they will fly up into a nearby tree and call querulously. When aware that their nest is discovered these species will go about their household duties with complete trust and equanimity.

Six to eight eggs form the usual clutch in both cases and second broods are rare, being attempted only if the initial effort fails. We have found that the majority of their nests have the entrance holes facing south or west. This orientation may be instinctively induced to ensure

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warmth at ground level by having the thick wall of the rear of the nest facing the colder points of the compass.

As a result of their arboreal feeding and terrestrial nest-habits, the territorial senses of these Leaf Warblers are not highly developed, and neither species, despite their close similarity in colouring and size, resents the presence of the other in its favourite trees or nesting in close proximity. Both nest close together with us and employ the same trees as reservoirs of food, but we have no doubt that any strangers of either species would be chased and driven away. Only one pair of each breeds in our sanctuary annually.

The two Whitethroats are not so different in size as to merit one being called the Greater and the other the Lesser, although the nest of the latter is very much the smaller. Both are readily distinguishable from other Warblers of the garden by their curious aerial antics when engaged in singing immediately after their arrival late in April and continuing until the latter part of May when nesting is afoot. They force themselves upon our notice by bobbing up suddenly on the top of a bush or hedgerow, jerking themselves into the air, babbling incessantly in a cheerful but unmusical manner and often rising vertically to descend slowly on fluttering wings, singing all the while. They simply must advertise their presence, and even when not engaged in their chattering singing will scold any intruder with harsh notes. They are ubiquitous and atone for what they may lack in melody by abounding energy. Theirs is the perfect example of territorial exhibitionism.

The song of the Greater Whitethroat is a happy, inconsequential jabber with little variety in its make-up; the opening notes are comparatively pure, but the ending tails off abruptly into harsher notes. The Lesser Whitethroat differs by singing more slowly in a more musical warble, the first few notes not unlike the opening bars of the Chaffinch's song, and the last notes and the abrupt

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ending reminding one of the song of the Gull Bunting. The song has an air of infinality. Actually its song is normally only half heard, for the first few notes are delivered in a whisper, like the exhalation of breath, and are inaudible at 6 feet.

There is also a distinction between their respective scolding call and alarm notes. The Greater Whitethroat uses sharp ticking notes interspersed with churring like a Tit, while the Lesser Whitethroat is content with a harsh 'ret-ret-ret,' increasing in pace of delivery until it becomes an angry, excitable rattle.

Notwithstanding their song and antic in the vicinity of the nest, the Whitethroats seldom betray their precise position on account of the speed and agility with which they slink through the undergrowth—which facility has earned for them the sobriquet of Nettlecreepers—and they are always meticulously careful to approach their nests unobtrusively by creeping low down through the surrounding cover which by its tangled nature lends itself to an unseen approach and retreat.

Any garden sanctuary possessing a clearing dotted with brambles, nettles, or other coarse herbage, will appeal to the Whitethroat, and should there be tall encircling hedges so much the better, for the Lesser Whitethroat, being the more arboreal of the two, is fond of such a combination. Both nest low down, but the nest of the Greater species is normally placed at a lower level than that of the other. With the former a position some 18 inches from the ground is usual. Both are deliberate nest-builders although the frail-looking structure of the Lesser Whitethroat appears at first glance to contradict this. So small is it and so thinly constructed that it resembles a sieve through the interstices of which the eggs are clearly visible from the outside. Nevertheless, it is surprisingly strong and rigid. Some examples we have seen could have fitted inside a large breakfast cup. The nest of the other species is larger, its



Plate 24.

GARDEN WARBLER ON NEST (*Perivale*)

[p. 122.]



Plate 25.

COCK WHITETHROAT AT NEST (*Ruislip*)

[p. 123.]

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walls much thicker, and its cup noticeably deeper. It is invariably well hidden in thick cover while the Lesser Whitethroat depends for the security of its home on its small size and the two or three bramble leaves that may hide it. Its secrecy is that of the unexpected.

Both have clutches of four to six eggs late in May, and rear only one brood annually, although a second attempt will be made if the first is destroyed, which accounts for young sometimes being found in the nest as late as the end of July.

One pair of Greater Whitethroats lost a first brood in our sanctuary to a rat when about eight days old, but within a few days they had built another nest in which three youngsters were reared.

Both sexes in both species assist in incubating the eggs and covering the young, for we have frequently watched the birds changing places on the nest. The periods of duty taken by the cock are not extensive and certainly nothing like so long as those indulged in by the cock Blackcap Warbler. Hen Whitethroats will brood closely and when driven from the nest slip off noiselessly, while the cock, if in evidence, attempts by angry scolding notes and delusive actions to lure the intruder away. The hen meanwhile weaves her way low down through the undergrowth to appear in the open some distance away whence to add her vocal objections. The incubation period is 12 to 13 days and the fledging period is of the same duration but is sometimes shorter, for the young will leave the nest through fright very easily after the tenth day of growth.

Although well hidden the nests of the Whitethroats normally occupy small detached clumps of heavier growth, and in consequence great care must be exercised to avoid leaving marks on the ground through constant inspection and in particular not to interfere with the scanty natural cover of these nests so as to risk their disclosure to natural

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enemies. Some depend solely upon the seclusion of a few bramble leaves which are easily forced out of position. As a result of the growth or added weight of foliage on bramble stems, the nests sometimes become tilted, and it is a wise precaution to fasten them securely to their supports with black carpet thread, otherwise some of the callow young fall out and die on the ground. This is quite a common occurrence with both these species.

In the Blackcap Warbler and the Garden Warbler we have two species which, though outwardly dissimilar and clearly identifiable in the open, do not tolerate any overlapping or even any proximity of one another's territories. Between these two there is a breeding detachment which is as intense as if they had been one species. This accounts for the statement often repeated that they will not inhabit the same stretch of woodland or tract of scrub. This is inaccurate, for they will settle down in the same districts, but their respective areas of control are as far apart as possible and with strips of neutral territory intervening. This exceptional intolerance between two different species arises from the fact that they skulk in cover but possess very similar songs and call notes. As both advertise territorial ownership solely by song and call, the consequent dispersal which their mutual aversion invokes is actually advantageous in obviating mistakes in identity by the birds themselves, particularly as the Garden Warbler arrives in this country after the Blackcap has delineated its territory.

The Blackcap Warbler is unique among our Warblers in having the two sexes quite different in plumage—the cock with its grey body and black cap and the hen with a brown body and a chocolate cap. The Garden Warbler, on the other hand, in both sexes is plain olive brown above and whitish below, shading to buff on the flanks, breast, and throat and having a yellowish stripe above the eye.

Although both inhabit woods and coppices, the Black-



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cap displays a preference for the more open parts and is not averse to nesting on commons and in the tangled cover at the corners of fields. The title Garden Warbler is, therefore, a misnomer for, although visiting gardens—yet no more frequently than the Blackcap—it is by nature a denizen of the undergrowth.

As songsters both are in the premier class. Some people prefer the song of a good Blackcap to that of a mediocre Nightingale. While there is no real resemblance between the two songs and the Blackcap as a rule lacks its power and compass, there are many individuals whose notes are in every way as fine and pure as those of the Nightingale. Both Garden and Blackcap Warblers, in their particular styles, are markedly superior to all the other Warblers. The form of both songs is similar, but whereas the Garden Warbler is the more persistent performer and its singing more sustained, there is a muted repression in its singing compared with the full-throated power of the Blackcap, whose song is always louder, purer, and mellower. The basic theme in each case is an improved version of the Whitethroat's babble to which is added passages from the song of the Robin, the contralto piping of the Blackbird and the tuning-up notes of the Nightingale. Yet the birds are not mimetic. This is their natural form of song. Performers vary both in quality and power and even from day to day. For this reason difficulty is experienced by many in separating the two songs, particularly when, early in the season, the birds are merely 'recording.' Both will sing during the dark hours when quite favourable comparisons may be made with the Nightingale. Despite their excellence, their songs have never earned the recognition they deserve. Probably they are popularly assumed to be the songs of various other birds amid the wealth of bird music in May and June, as neither bird exhibits itself when performing. The Nightingale, too, as a daylight performer, is overlooked.

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Both species employ harsh, scolding notes by way of alarm and call, the Blackcap a loud 'tack-tack,' and the Garden Warbler a clicking 'tick-tick,' which in moments of stress become rapidly enunciated until they form an irascible churring.

Although choosing cover of the same type, the nest of the Garden Warbler is normally placed at a higher elevation than that of the Blackcap, with less natural cover surrounding it. Thus it is to the Blackcap in its style of nesting what the Lesser Whitethroat is to the Whitethroat. Its nest too is slighter and shallower than that of the Blackcap. Both employ the simplest of materials, stiff grasses with finer grasses and some cow- or horsehair by way of lining. Sometimes the Garden Warbler will sling its nest, cradle-like, between supporting stems, forming grassy handles around these. One we found in Perivale Sanctuary was fixed to four stems of Willow Herb which rose, like the cradle of the Reed Warbler, as the plants grew.

Both species are single-brooded and lay clutches of four or five eggs. The incubation and fledging periods are 12 or 13 days. In both cases the sexes share the duty of incubation and covering the young during the first few days after hatching. This is easily checked in the case of the cock Blackcap through the dissimilarity in plumage. In his case there appears to be no set time during the daytime when he relieves his mate, for we have noticed him on the nest at all hours, but it does seem that the early afternoon hours form a special duty period when the female is away feeding. There is no doubt his share of the work is considerable, but she always does the night watches. While she is brooding he will often perch under cover nearby and sing placidly and sweetly.

These two Warblers go about the job of rearing a brood with much less obtrusiveness and excitement than the Whitethroats, but, like those species, never make a direct approach to their nests, always weaving through cover

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with skill and circumspection. Should a hen Blackcap die the cock will successfully rear the nestlings, an unusual example of domestic solicitude in a male bird.

It has been often asserted that both these species commence several nests before they are satisfied. Certainly one finds many apparently abortive attempts at nest-making, but careful inspection will disclose that these structures are simply platforms of dried grass and are placed at the tops of bushes or brambles in positions too open for nest-sites. In actual fact they are courting platforms fashioned by the male birds. Whether they have any significance in the earmarking of territories we do not know. Probably they form the sites of the bird's original headquarters whence it first sang to exhibit ownership of the surrounding area. It does not appear that more than one platform is fashioned by each male.

Both species will attach themselves to suitable gardens near woodlands and, if provided with undergrowth of bramble, sweet briar, or young blackthorn, will readily nest. We have known of a Blackcap Warbler's nest in a currant bush and that of a Garden Warbler among raspberry canes. The former will be attracted by a clump of Snowberry (*Symphoricarpus*) for nesting purposes. As this shrub flourishes well under trees or in the shade it may well be specially planted as an invitation to this bird.

Once a garden is honoured by these two species, their continued re-appearance can be counted on and, although they may never attain that degree of tameness which is displayed by Chiff-Chaffs and Willow Warblers, they are by no means shy or intolerant of close observation while breeding. They are both most pertinacious of a nesting area once adopted.

## CHAPTER XIII

### THE FINCHES

Order—*PASSERIFORMES*

Family—*FRINGILLIDAE*

Genus—*Chloris*

Greenfinch

(*Chloris chloris chloris*)

Genus—*Carduelis*

British Goldfinch

(*Carduelis carduelis britannicus*)

Genus—*Pyrrhula*

British Bullfinch

(*Pyrrhula pyrrhula nesa*)

Genus—*Fringilla*

British Chaffinch

(*Fringilla caelebs gengleri*)

Family—*PLOCEIDAE*

Genus—*Passer*

House Sparrow

(*Passer domesticus domesticus*)

Tree Sparrow

(*Passer montanus montanus*)

THE Finch family is noteworthy for the wide diversity of colouring between its members. Consider our familiar garden Finches, the Greenfinch, Goldfinch, Bullfinch, Chaffinch, and House Sparrow. In what other family of birds will one find such wide differences in coloration, such apparent disunity in appearance? All possess the short, conical beak, that necessary instrument for crushing seeds, the hallmark of the Finch, but this is the only feature that they possess in common, and even their beaks vary enormously in size and form.

Probably the form of the beak in the Greenfinch is more nearly typical than that of the others, for the Greenfinch is more exclusively addicted to a seed diet.

The Greenfinch is a bird of cultivated areas and gardens wherever large trees and tall hedgerows provide it with cover. Though not brightly coloured there is an air of

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neatness about its spring dress of green and brown with yellow edging to wings and tail. It is not an obtrusive bird, preferring to haunt park-like country and the edges of large woods where its call, a leisurely drawn out 'dwee' or 'bree-ze' as if it were in fact calling for a wind during the sultry afternoon hours of summer, is not unmusical. The Greenfinch, with the Yellow and Cirl Buntings, will continue to call during those periods of the day when birds are normally silent and resting. The call note can become monotonous, but it is so appropriate to languid ease and the accompanying hum of insects and so suggestive of weariness that its constant reiteration is not unpleasing. The bird is a persistent performer, preferring to address its calls from an elevated perch in the seclusion of a large tree and can be heard from April until August but more commonly during May and June. It also indulges in a desultory twittering interspersed with this call note which combination may be accepted as its true song. In moments of anxiety or excitement and when moving about in flocks it uses a double note, a harmonious 'pee-whit' which is delivered in a tone of enquiry.

The comparatively bulky nest is usually placed between 6 and 12 feet from the ground in a hawthorn or conifer, and in the latter case the nest will normally occupy a position at the extremity of a horizontal bough. The bird will also build in a laurel in a shrubbery, when the nest will be placed at a lower elevation than usual but be better concealed. Nesting commences in April and four to six eggs will be laid, and two or sometimes three broods reared in a season, young being found in the nest as late as August. The last brood and their parents will remain together as a nomadic party or join up with other Finches in flock during autumn and winter, the earlier broods having already attached themselves to others of their kind. Although not a close brooder, the Greenfinch is an affectionate and bold parent and will attack any cat or other

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marauder, furred or feathered, that may have designs on its nestlings.

The young are fed by regurgitation on a crushed mixture of seeds and some insects, both sexes attending them, but the hen alone performing the duties of incubation and of covering the young.

The garden sanctuarian need adopt no special measures for the attraction of Greenfinches. If his garden should be in an area where they are common, it will undoubtedly be visited and adopted as a nesting locality, but, although widely distributed and a resident bird, this species is local in its choice of habitat and tends to colonize an area rather than to disperse over suitable districts. Peanuts and hempseed offered during the winter months may ensure its retention in the neighbourhood, but whether it will thereby be induced to breed later is beyond the control of the supplier. There seems to be no valid reason for its choice of one locality in preference to another.

In studying birds at home the observer encounters unexpected cameos of loveliness that create a lasting impression upon the memory. Every colour and every tiny detail become so indelibly retained that the resurgence of memory recreates the scene as vividly and permanently as a painting. The vision of a Goldfinch on its felted nest decorated with lichen and embowered in apple blossom is one of these, and there are few sights in the realm of Nature so perfect as the ethereal grace of such a nest set among the pink and white petals, dappled with spring sunlight, and hiding as if in a fairy cavern the bright red, gold, black, and white charm of the immobile bird. One can only describe the Goldfinch as charming, no other epithet does it justice. When they referred to a party of Goldfinches as a 'charm' our ancestors were but expressing this truth. A 'charm' of Goldfinches among the thistles is a memorable sight as they twitter happily while fluttering from plant to plant as lightly as the windborne seeds they scatter as they feed.



Plate 26.

NEST OF BULLFINCH (*Gerrard's Cross*)

[p. 130.]



Plate 27.

GREAT SPOTTED WOODPECKER (*Ruficapilla*)

[p. 131.]



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The yellow markings on their wings catch the eye as they hang and hover like butterflies, and now and again, with dipping flight, pass to another patch of weeds.

They are creatures of wastes and open localities and eschew the arboreal habitats of Greenfinch and Bullfinch except when breeding, and even then they prefer more open sites in an orchard or on the fringe of woodlands or in tall willows along the streamsides. They are particularly prevalent on the waste grounds surrounding gravel pits and especially those disused excavations where water has collected. Here they find not only sustenance but also suitable nesting-sites in elders, alders, and willows. In a wild garden they will be attracted by seeding forget-me-nots and teasle as well as ragwort, dandelions, and coltsfoot, while cosmos in the herbaceous border also appeals to them.

Undoubtedly Lord Buckmaster's Act (the Wild Birds Protection Act of 1934) has served to increase the numbers of our Goldfinches, which is to be welcomed on economic grounds, for they do incalculable good in consuming the seeds of pernicious weeds and preventing their spread to cultivated land.

During the summer it also feeds on insects and their larvae and rears its young mainly on such animal food. It changes its diet in April and continues to feed largely on insects until late in August.

Although its song is loud and clear, it possesses little vocal compass. It mainly comprises modulated variations of a flute-like call note 'zwit.' Goldfinches are gregarious creatures, and a party will keep up a constant and conversational series of calls. There is also no doubt that they tend to nest in small colonies of two or three pairs.

The cock Goldfinch engages in quite an elaborate nuptial display, swaying from side to side with drooped wings so extended as to display the yellow bars to the best advantage and at the same time singing excitedly and now and again flying in a small circle to re-perch and repeat its performance.

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Both sexes help in nest building. The nest is fashioned with almost the same skill as that displayed by the Chaffinch but is normally of looser construction and wider at the top. Although thistledown is frequently stated to be used in the lining of the felted cup of moss, wool, hair, bents, and fibrous roots, we doubt this assertion as thistles have not seeded in April or early May when nesting commences. The usual lining consists of feathers and coltsfoot and willow down with a little wool and sometimes horsehair. The nest is usually placed in a more elevated position than those of other Finches, a favourite position being in a fork in some slender tree or the stem of a willow some 20 or 30 feet from the ground. Nests are also built in orchard fruit-trees, the more lichen-covered the better, for the nest with its external lichen decoration will assimilate well with its surroundings.

The usual clutch of eggs numbers five, laid late in April, and incubation, which is performed by the hen alone, takes 13 days. Two broods may be reared, the latter remaining together with the parents to form a small party leading a gypsy existence during the winter.

The Continental race (*Carduelis carduelis carduelis*) differs from our bird by being slightly larger and less brightly coloured. It probably visits our shores in winter, but as our own birds vary considerably in size and colouring identification is difficult and unreliable.

The familiar Bullfinch is commoner than is suspected. Being a woodland and somewhat retiring species, its presence is overlooked. Its bright coloration and particularly the contrasting white of its rump, which catches the eye as the bird flies with dipping flight across a clearing or along a woodland ride, would prove a disadvantage were it to resort to open country. Not naturally timid or a lover of dense cover, it haunts thin coppices rather than large woods, and is also found in small colonies in rough areas where young birches and a few nobler trees rise above

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tracts of blackthorn, briar, and bramble. In wooded districts it will occupy the sparser growths of young elm, hawthorn, and other small trees which skirt the boundaries of the larger woods where they encroach upon rough pastureland adjoining.

It is the most sedentary of all our Finches, and despite persecution by fruit-growers manages to maintain its numbers in its chosen haunts. The impish delight with which it perches on fruit-trees and nips off every fresh green bud within reach and allows the majority to fall to the ground does not commend it to the horticulturist. It acquires this purely vegetarian taste for barely one month in the year, and must serve some useful purpose to nature or it would not have survived.

Aside from the aesthetic appeal of its colouring, the Bullfinch charms by its clear plaintive piping which is so penetrating in its quality as to be equally audible whether uttered at a range of fifty yards from the hearer or from close at hand. From the bird's habit of moving its head from side to side, the piping call and the low mellow song possess ventriloquial qualities, which, aided by the woodland cover around it, render discovery of the performer difficult. Individuals vary considerably in the compass and purity of their songs, but the effect is always pleasing, a deliberate, constructive, and reposeful effort with just a touch of melancholy in its tone to reflect the essential wildness of its environment. When disturbed it will, with a soft 'whip-whip' and in a dipping flight, move ahead of an observer through the woodland. Should a family party be encountered they will flit from tree to tree and along the hedgerow or covertsides in single file as precisely as if the leader were blazing an aerial trail to diverge from which would spell disaster. This meticulous 'follow my leader' is unique among our small birds.

Bullfinches appear to pair for life, for one seldom sees them singly at any season. Not gregarious, like other

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Finches during winter, they remain together in family groups until the spring and even as late as April. Normally nesting commences in May, although some nests may be precociously completed during April. The simple nest of dark twigs with a shallow cup lined with root fibres and horsehair is generally placed in a blackthorn thicket or a young silver birch at no great height from the ground. Isolated hawthorn bushes will also be used and wherever possible a horizontal branch will be employed as the base for the nest. Both sexes build, but the female alone incubates and covers the young. A second brood is sometimes reared, but as a rule the Bullfinch is single-brooded. While his spouse is brooding, the cock will perch nearby and sing sweetly and in a subdued manner. So modulated is this singing that it is inaudible at a few feet. The cock frequently feeds the hen on the nest and for the first few days after the eggs are hatched will pass food to her by regurgitation which she in turn administers to the nestlings. Later both birds seek food together and arrange their return to the nest simultaneously, making a pretty picture of domestic happiness and devotion as they linger on its rim to admire their offspring. They are exceptional parents, undeterred in their work by outside influences.

They will only breed in gardens situate near wooded cover. They are attracted to the berries of privet in autumn and of elder in late summer and will nest in these bushes as well as in blackthorn and hedges of tall hawthorn in and around houses where conditions are otherwise suitable. Generally speaking, they will return to the same district season after season for breeding purposes.

Eminently beneficial, highly decorative, and a pleasant songster withal, the Chaffinch is, with the exception of the House Sparrow, our commonest bird. It is evenly distributed in town and suburb, in rural areas, and in the

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remoter districts of the countryside, and were it possible to take a simultaneous census it might well be that the Chaffinch would surpass even the Sparrow in numbers during the autumn and winter when our native population is augmented by the influx of individuals of the Continental race.

Its song expresses the very joy of living. We hear it all around us from orchard and woodland bough, from hedgerow and lane, and even in the centre of towns. It is a song of joyous exuberance and abandon. While at first during early spring it lacks a determinate ending, by the middle of April it matures into the full cheerful song with its abrupt finale, the penultimate note being elevated and accented and the whole performance comprising about a dozen notes rattled off with unvarying speed and uniformity. What it lacks in compass it atones in energy. Even its call notes are pleasant, the cheerful 'pink-pink' uttered by both sexes as a general call, and a penetrating 'wheet-wheet' when the nest is endangered or fledglings are about. The flight note is a double clipped 'chip-chip' and occasionally a 'chissick-chissick' not unlike the flight note of the Wagtails. This latter is more of a flock call than a generally informative note.

It is not surprising that such a forthright songster should also prove vivacious in its movements. Few small birds can equal the Chaffinch for its air of alertness and animation and in the spruceness of its appearance. A cock Chaffinch in spring plumage is decidedly handsome and knows it. Even then the sober-coloured hen enhances the greenish hue of her back and acquires a faint pinkish suffusion to her flanks. Young Chaffinches resemble the female until after the autumn moult, but juvenile cocks lack the rich blue colouring on their heads until the following spring. The intensity of this colour varies with individuals and those haunting damp and well-vegetated districts possess deeper blue on the crown and more noticeable clarity of colouring

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on the under-parts than those resorting to drier and more open districts.

The nest, second only to that of the Long-tailed Tit for excellence of workmanship, is familiar to many for the skill with which it is decorated externally with silvery lichens or even strips of paper in a genuine attempt at assimilation with its surroundings. The external curves of the nests are such that were the sides extended a complete sphere would result; the nest thus forms two-thirds of a hollow ball with the diameter at the upper rim less than the diameter an inch or so below it. This inward curving at the top appears to be unique among our cup-shaped birds' nests. A situation at any elevation between 2 and 20 feet from the ground will be chosen and almost any form of cover suffices. The nest is at its best when built against the trunk or in a bough fork of a forest tree. Four to six eggs form the usual clutch and the bird is double-brooded, but the second nest is not as a rule built near the first, a habit which has tended to suggest to some observers that a second brood is unusual. Having regard to the density of our Chaffinch population it should be self-evident that a single brood per season would not suffice to maintain such numbers.

The cock Chaffinch is an ardent and persistent wooer, singing to his mate with raised crown and dilated breast feathers and displaying before her with half-spread wings and swaying motion the better to advertise the white wing bars of which he seems to be inordinately proud. Now and again a sexual chase through the trees is indulged in while quite serious bouts and pursuits engage the cock's attention when other males appear in the vicinity. As soon as the nesting-site is chosen, the cock greets any intruders with a plaintive 'wheet-wheet' even though nest-building may not have commenced. Both sexes build the nests, the female completing the lining. She alone incubates the eggs, but both sexes attend the young, who are fed by

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regurgitation on a mixture of seeds and insects of which many are taken during the summer months by both old and young.

The specific name 'caelebs' meaning 'unmarried' was applied to the Chaffinch by Linnaeus, who observed that winter flocks were largely composed of one sex. Though this may be true of some parts of the bird's range it cannot be accepted as a universal habit, and it is probably that the preponderance of immature specimens in female plumage may have induced over-emphasis on the winter separation of the sexes which is by no means constant. Our bird differs from the Continental race (*Fringilla caelebs caelebs*) by its brighter coloration. The latter visits us in large numbers during the autumn and winter and some of our individuals may emigrate to South-West Europe, returning in the spring. Such a plentiful bird requires no special attracting to a garden and given almost any form of cover will nest in quite small gardens. Occasionally it will adopt a tray on a tree-trunk as a nesting-site, but any type of hedge or a bush on the outskirts of a shrubbery will prove acceptable as a nesting-place, and rose pergolas are frequently used for this purpose.

Whatever its faults, one must admire the ubiquitous House Sparrow for its perspicacity and adaptability, for its powers of reproduction despite constant persecution, and for its devotion as a parent. Association with man—for wherever man has colonized the world this bird or its geographic races have followed—has engendered a confidence and a tenacity unsurpassed by any other bird. It attaches itself to human habitations wherever they may be, and despises life elsewhere and has adapted itself to glean a sufficient livelihood from fare disdained by other feathered creatures. In the realm of bricks and mortar it may be said to serve a useful purpose as a scavenger and a moderate destroyer of insect pests during the summer months, but both the lack of competition in towns and its

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natural unchecked fecundity have so increased the Sparrow's numbers as to make it a pest, not so much for what it actively does but for the indirect harm which always arises from the superabundance of any particular species. It usurps the potential habitats of other more useful birds.

In its practice of gregariousness it is an opportunist. Its association with its own kind is unco-operative and founded on distrust and suspicion and an acquisitive temperament which, on seeing one or two birds gathered together, must join them on the offchance of easy pickings, coupled with a greedy desire that none shall fare better than itself.

Alone among small birds its conjugal fidelity is not above suspicion, while its nuptial fights, when all Sparrows in the neighbourhood appear to join in a free-for-all sparring match, are commonplace. It will adhere to a chosen nesting-site with extraordinary persistence, and where sites are limited constant fights occur between rival claimants. Where trees and lofty hedgerows are available it will build an untidy domed nest of straw and grasses in positions that are palpably obvious. No doubt this was the original form of nest and the choice of more secure positions in gutters and under eaves quite a modern development. Unlike other non-social birds, the House Sparrow will utilize the same nest season after season and appears to be unconcerned at its consequent untidy appearance or internal dirtiness.

In towns it escapes its natural enemies and it is in towns that it does most mischief, dust bathing in the seed-beds, mutilating flowers of yellow hue, pecking off dianthus shoots, and devouring freshly sown grass seed. Its seasonal destruction of rose aphides is its only atonement.

In a garden sanctuary it will annex any nest-box from 6 feet above ground and upwards should the entrance hole exceed  $1\frac{1}{2}$  inches in diameter. Constant removal of its nest is the only cure, but its memory is conveniently short



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and the same precaution may be necessary the next season; meanwhile the nest-box is useless for other birds.

The Tree Sparrow, on the other hand, is more useful, is not addicted to flower plucking or shoot stripping, and is decidedly more insectivorous during the summer months. Being local in distribution and inclined to breed in colonies it is not a frequent visitor to gardens in general. It prefers districts plentifully supplied with large crevice-ridden trees, for unlike its congener it invariably nests in holes in trees and old walls, inside which it constructs a similar nest of grass lined with feathers which still retains some semblance of the domed shape which is characteristic of the House Sparrow's dwelling. It will willingly accept a Tit nest-box, and can, with difficulty, negotiate a  $1\frac{1}{2}$ -inch hole.

We have observed that it indulges in the peculiar habit of maintaining a fresh green leaf in the nest which it lays over the eggs or young. The leaf of a hawthorn seems to be preferred, but leaves of guelder rose and oak have also been employed. Immediately the leaf loses its freshness a new one is substituted and, if one removes the leaf, the bird will soon put in another. The habit has been persisted in until the young are some four days old. The reason for this unique habit is unknown. That it has not previously been reported is doubtless due to the fact that natural nesting-sites do not permit of easy observation like nest-boxes.

The bird appears to be double-brooded, while the House Sparrow will, of course, have at least three broods in a season, from an early start in March. The Tree Sparrow does not nest until May. Both lay clutches of four to six eggs, which in the case of the Tree Sparrow are very variable, one at least out of each clutch being lighter than the remainder. We have not yet been able to determine whether this egg is the result of pigment exhaustion or whether it recurs in a regular sequence among the eggs laid by an individual hen Tree Sparrow.

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The House Sparrow is one of the few birds that possesses no real song unless one can consider the constant repetition of its call note in which it indulges when courting as a song. Its notes are familiar and well rendered by the words 'chirp' and 'chirrup' of common usage and which doubtless owe their origin to a popular rendering of these everyday sounds around human dwellings.

The Tree Sparrow comes nearer to proper singing in the more musical repetition of its 'chip' call note, which is softer than the corresponding 'chirp' of its congener. It also indulges in a double 'che-up,' the counterpart of the House Sparrow's 'chirrup'; while both species will utilize a rapid churr when approaching to feed young in the nest or abroad. Both species are much addicted to seasonal flocking and we no doubt receive a large influx of both from the Continent, while during years of exceptional increase many of our individuals emigrate to Western Europe.

## CHAPTER XIV

### THE WOODPECKERS

Order—*PICIFORMES*

Family—*PICIDAE*

Genus—*Picus*

Green Woodpecker (*Picus viridis viridis*)

Genus—*Dryobates*

British Great

Spotted Woodpecker (*Dryobates major anglicus*)

British Lesser

Spotted Woodpecker (*Dryobates minor comminatus*)

WERE it not for their secretive natures even within their woodland habitats, Woodpeckers would be conspicuous birds and suffer attention from the collector and the man with the gun, for all three are of striking coloration. However, one seldom catches more than a fleeting glimpse of the Green and Great Spotted species except when they fly across a clearing or a meadow adjoining a wood whither anthills have attracted them. The Lesser Spotted is seldom seen unless specially sought after, for its small size and its habit of keeping to the tops of trees are a protection and it very seldom breaks into sustained flight.

The Green Woodpecker with its green and yellow plumage and red cap is familiar to the majority, while the Great and Lesser species are black, white, and red, the former  $9\frac{1}{2}$  inches long (the same size as a Blackbird) and the latter  $5\frac{1}{2}$  inches long (the same size as a Great Tit but more stockily built), and because of the barring of white on the wing, and also across the back in the case of the Lesser, are commonly known as Barred Woodpeckers. Structurally the Woodpeckers are interesting in having

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the toes of their feet disposed in pairs, two in front and two behind. This formation of foot, technically known as zygodactyle, is of great assistance in climbing and clinging, while the possession also of a very flat sternum or breast-bone enables them to maintain their bodies close up against tree-trunks and boughs as they ascend and descend. All have short, stiffened tail feathers upon which they can squat while clinging to supports with their toes. Their tarsi (shank bones) are very short, hence their shuffling form of progression. They possess singularly strong beaks well adapted to chiselling, while their tongues are long and extensile and equipped with barbs at the tip with which they can drag out larvae and insects from crevices and extract ants and their pupae from their nests.

Although the Green Woodpecker is generally considered to be the commonest, the Great Spotted species is actually more widely distributed than is popularly supposed and is definitely on the increase both in range and numbers. In our own district and in the Perivale Sanctuary we have found both species in equal numbers. There is no doubt the Green Woodpecker draws more attention to itself through its laughing cry throughout the year, but more frequently heard in April and May, that the average observer can be excused for overlooking the Great Spotted Woodpecker who has no vocal claims and 'drums' during April and early May only. The Green Woodpecker or Yaffle, no doubt so named because of its laughing call, also receives the name of Rain Bird because of the erroneous assumption that it calls more before, and thus presages, rain. It certainly calls more frequently in the showery month of April but that is coincidental. It may well be that the similarity of its mellow 'plew-plew-plew' to the French word for rain has much to do with its local appellation of Rain Bird. It also employs a double note when in flight and when working towards its nest with food. Mellow in tone, this can be rendered as 'tu-plew'

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and is easily recognized when heard. This is sometimes used as a sex call of communication to indicate the whereabouts of one to the other of a pair.

The Great Spotted Woodpecker's substitute for a spring song is the well-known mechanical 'drumming' on a tree-trunk or thick bough and occasionally on a wooden fence post. The sound is produced by means of rapid blows with the side of the beak, slower at first, but quickly accelerating until a vibrating rattle results. There has been controversy in the past as to whether the sound is actually the result of the blows on wood, and some observers have even claimed that the sound is purely vocal. Careful observation will show that the basis of the drumming sound is the repeated blows with the beak on a wooden sounding board, sometimes so rapidly executed that the moving beak becomes a blur to the sight.

The resulting sound is hollow and penetrating despite being produced on healthy as well as rotten wood, and we are of the opinion that the bird, by some operation of the syrinx (vocal mechanism) magnifies and mellows the sound. It has often been asserted that it varies in pitch according to the nature and thickness of the wood struck, dead wood being claimed to produce a deeper note than live wood, but quite frankly we notice little difference and certainly not so much variation as would be expected in comparison with the different-sounding boards used. Thus it seems that the vocal mechanism of the bird, by dilation, contributes in imparting a constant resonance.

The bird does not restrict its performance to the same bough or even the same tree, and the 'drumming' appears to be exhibitional, both as a sex attraction and a territorial advertisement, for the performer goes the round of quite an extensive but defined area with marked persistence. As an alarm note and a communicative call note, this species also employs a deep 'chack-chack' and occasionally a mellow 'chuck' which is delivered in a tone of enquiry

#### BIRDS IN A GARDEN SANCTUARY

very reminiscent of the quieter call of the Blackbird. There is also a harsh 'chik' rapidly repeated which is used when alarmed and more particularly when disturbed suddenly near the nesting-site.

The Lesser Spotted Woodpecker also drums but not so frequently, persistently, or loudly. It possesses a very distinctive song and call, consisting of five notes 'kee-kee-kee-kee-kee' delivered with unvarying uniformity of pitch and speed. They resemble the notes of the Wryneck—another member of the Woodpecker family—but are less musical, less metallic, and not so resonant. Young Lesser Spotted's in the nesting cavity keep up a constant 'kek-kek-kek' when calling for food, which become louder and harsher as the parents signal their arrival with their answering 'kee-kee-kee.'

The young of the other two Woodpeckers 'buzz' constantly like monster bees, and can be heard if one places one's ear against the trunk of the tree containing the nesting cavity, although this may be some 20 or 30 feet above. When almost fledged, the young call their parents with double notes very similar to those of the older birds and first one and then another of the young will put its head out of the entrance hole to advertise its hunger vocally.

The main diet of all three species comprises grubs embedded in rotten wood, and the small maggots, grubs, and chrysalides secreted behind loose pieces of bark. The Green and Great Spotted species are also passionately fond of ants, both the Wood Ant and the Amber-coloured Meadow Ant. The nest of the former, a large loose heap of pine needles or dead leaves, proves a welcome discovery for the Green Woodpecker who merely has to scratch the surface to ensure a ready rush of the inmates with pupae in their jaws seeking the cause of the disturbance and safety for their brood. With dexterity and rapidity the long tongue of the bird soon thins their numbers.

An inspection of the hills of the Meadow Ant in a wood-

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side pasture will soon disclose where a Green or a Great Spotted Woodpecker has been at work, for the disturbed and broken tops of the hillocks show the extent of the forays. Visits to these ant-hills are usually reserved for the evenings at what time the warmth of the nest after the afternoon sun induces the ants to bring their grubs and cocoons to the surface galleries. Young Woodpeckers are fed upon foliage caterpillars as well as the various forms and stages of insect life obtained from tree-trunks and boughs. It has been stated that both the larger Woodpeckers will rob the nests of smaller birds when the young are still naked, but this fact has never come under our observation. They will occasionally visit orchards for fruit as well as insect pests but the damage done to the crop is negligible.

The unerring accuracy with which Woodpeckers discover infested wood is amazing. They never attack clean wood, hence they cannot be accused of causing damage to sound growing timber. On the contrary, they soon disclose where a tree is decayed or decaying or attacked by insects that have bored unseen into the bark. A Great Spotted Woodpecker in our sanctuary reduced a rotten bough by steady chipping from a diameter of 6 to a hard core of 2 or 3 inches over a length of 6 feet, yet it never touched any other part of the tree.

Fallen tree-trunks that have lain in a woodland clearing for a long time are happy-hunting grounds for the Green Woodpecker and neither this nor the Great Spotted species objects to feeding at ground level. The Lesser Spotted Woodpecker, on the other hand, restricts itself to the upper branches of tall trees and a careful scrutiny of the dead boughs that protrude at the tops of oaks and elms will usually disclose the bird busily excavating; but it is more wary of observation than the other two.

When searching for food, both the Green and the Great Spotted Woodpecker will fly to the base of a tree and

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gradually work upwards in a series of jerky hops, ascending as a rule in a corkscrew fashion round the trunk. As they move upwards, likely spots on the bark are tapped and by the hollowness of the sound the birds are able to decide where a grub is embedded. At the same time their 'sticky' tongues are constantly in use extracting insects of all kinds from behind bark or out of crevices. Neither species pauses long in one position but should it do so it assumes an alert position with head thrown back and beak ready poised as if listening for movement near it. Rarely does either assume a perching position athwart a bough, the normal stance is lengthways of the wood. Frequently they check their upward climb to drop for a short distance, tail foremost, never head downwards, to search a likely spot previously overlooked. When conscious of being watched they will work round to the rear of a trunk and slyly peer at an observer first from one side and then the other and will frequently fly off noiselessly and close along the ground from the rear of a tree-trunk to another tree so that the retreat is unobserved. When it does feed low down the Lesser Spotted Woodpecker is even more evasive.

During hard winters, Woodpeckers will consume berries, beechmast, and acorns, and none is reluctant to visit gardens for aphides and other insects, even examining a lawn as carefully as Starlings, particularly after a heavy shower of rain.

All excavate a nesting cavity in soft wood, the hole running horizontally for a few inches and then curving downwards, widening as it goes to form a pear-shaped chamber with a concave base, within which a few chippings remain among which the white eggs, numbering from five to eight, are laid. The birds do not waste labour, so that the holes are fairly constant in size, they are slightly elliptical with diameters from top to bottom of  $2\frac{1}{2}$  inches in the case of the Green,  $2\frac{1}{4}$  inches in the case of the Great Spotted, and  $1\frac{3}{4}$  in the case of the Lesser Spotted Wood-



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pecker. In the case of the Great Spotted, the entrance passage may rise upwards from the horizontal before turning downwards to the main chamber, and this species and the Lesser Spotted always appear to excavate a new cavity each season. None of the three species is particular to remove the chips as work progresses, so that an accumulation of new chippings at the base of a tree is a ready means of tracing their nests. Some rotten boughs may contain several excavations one below the other, all of which have been used as nests; but the birds invariably work downwards from the tip of the bough so that the hole in use is always the lowest—a wise precaution against the possibility of the bough breaking.

On the other hand, the Green Woodpecker will utilize the same nesting cavity for several seasons, and as this is usually excavated in the main trunk of a substantial tree the position of any later excavation is of no consequence. Yet the Great Spotted species when nesting in the main trunk still discriminates in its choice of position in relation to earlier excavations.

Only one brood per season is reared and laying of all species usually commences in the middle of May but, as the Starling is adept at ousting the two larger species from their nesting-holes immediately they are ready for use, later broods are not infrequent. As the holes require over a week to excavate, the egg laying of dispossessed individuals may be deferred until the beginning of June. Incubation takes from 15 to 16 days and both sexes assist in all three cases, the cock bringing food to his sitting mate.

Occasionally the Great Spotted Woodpecker will annex a Tit nesting-box and enlarge the entrance hole. One in the Perivale Sanctuary has for several seasons used a box only 5 feet from the ground and successfully reared its broods. The use of nesting-boxes in many cases is a matter of expedience and generally occurs late in the season. This suggests that the birds have been ousted from their

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proper cavities by Starlings and have acquired a ready-made cavity to save time. These box-nesters gather together a few wood chips with which to form a slight cup at the base of the box to prevent their eggs from rolling about on the flat bottom.

All our Woodpeckers are strictly resident here and the Great and Lesser Spotted Woodpeckers have been granted sub-specific status. We receive winter visits from the Northern Great Spotted Woodpecker, which is larger and less brightly coloured.

## CHAPTER XV

### THE NUTHATCH AND TREE CREEPER

Order—*PASSERIFORMES*

Family—*SITTIDAE*

Genus—*Sitta*

British Nuthatch

(*Sitta europaea affinis*)

Family—*CERTHIDDAE*

Genus—*Certhia*

British Tree Creeper

(*Certhia familiaris britannica*)

THE Nuthatch is in many respects unique among our birds for it alone plasters the rim of its nesting-hole with mud to provide a standard size of orifice, it is the only bird that can creep down a tree-trunk head first and even sleep in that position, it alone seeks out and splits open hazel nuts and filberts by wedging them in convenient crevices, and although possessing the true passerine perching foot of three toes in front and one behind, is more agile in climbing and clinging in any attitude on a tree than any Woodpecker whose feet are specially adapted for that purpose.

Locally distributed and often for some unaccountable reason forsaking its old haunts, the Nuthatch is restricted to open parkland and old woodlands and only visits gardens where there are ancient timber trees and mature fruit-trees.

Despite its bright coloration of bluish-grey, orange buff, chestnut red, and black, it is not conspicuous against a tree-trunk, and its active movements carried out erratically and apparently without any set purpose tend to suppress its colours. Attention is first drawn to the bird by its whistle, a clear 'twee-twee-twee' of bell-like resonance. The bird is far from silent, calling frequently. Having

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located the direction of the sound it is easy to approach quite close to the performer who may be seen ascending and descending a tree-trunk in spasmodic starts and stops, working upwards and downwards with equal facility and unaffected by the laws of gravitation, for it is equally at ease inverted, upright, or hanging vertically upside-down. By the assistance of its strong clasping claws it grips the bark from every conceivable angle and alights on a tree-trunk so adroitly that it appears to propel itself to its destination without regard to the angle of arrival, and thereupon sticks wherever and in whatever position it meets the wood.

In searching trunks and boughs for food, the Nuthatch seems to proceed haphazardly, first ascending a short distance, then turning completely round and descending head first, then going round the trunk horizontally to reappear from the other side and then perhaps start off at another angle, all the time tapping the bark with its pointed beak, probing for insects and hammering them against the wood.

It is also very fond of nuts and the hard seeds of yew, while acorns are sometimes devoured. The nuts and seeds are taken to a convenient crevice in some deep-barked tree and there wedged so that they can be broken apart by anvil-like blows of its beak delivered with the full weight of its body swinging from the hips and assisted by flapping of the wings. The bird will hang downward to deliver its blows, thus obtaining more impetus behind them. Favourite trees are used for wedging, and the shells of nuts frequently remain on the earth beneath as silent witnesses to the bird's presence in the locality. The food of the young is supplemented by terrestrial insects. In winter the bird will attend at the bird-table for fat or peanuts as unconcerned as any Titmouse.

The Nuthatch has a trilling song, a subdued replica of the Yaffle's laugh, which occasionally changes to a water-bubbling sound. The male indulges in a nuptial display,



Plate 28. TREE CREEPER ABOVE NESTING SITE (*Perivale*) [p. 150.]



Plate 29.

SPOTTED FLY-CATCHER AT NEST (*Ickenham*)

[p. 151.]

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swaying its head from side to side, expanding its breast and flank feathers, spreading its tail so that the white markings are disclosed, and fluttering its wings, and, occasionally, performing a short aerial evolution, descending to its perch on outstretched wings and with expanded tail.

The nest is placed in a hole in a trunk or bough and is loosely constructed of bark, leaves, grass, and moss. The entrance hole is always plastered around its circumference with clay so as to leave an orifice of just sufficient size for passage of the adults. On occasion a natural hole is first enlarged and then reduced by the addition of the muddy edging. This also occurs when a Tit nesting-box is utilized. Should the clay be removed or cracked it is speedily renewed.

Five to eight eggs are laid and only one brood is reared, both parents assisting in the building of the nest and feeding of the young, but the male does not appear to share in the duties of incubation. The incubation period is 14 days and the fledglings leave the nest some 16 days after hatching.

The Nuthatch can be attracted to large gardens where specimen trees are available by the provision of filberts, walnuts, and threaded peanuts. The unshelled nuts should be wedged in crevices. Fat and suet should also be fastened to the bole of a convenient tree. Should a pair of these birds be induced to breed in a nest-box they or their offspring will return regularly year after year just as is the case with natural nesting positions which are known to be utilized by Nuthatches for generations. We have in mind one nesting-hole not 6 feet from the ground and right alongside a busy stile that has been occupied by Nuthatches without a break for twelve years at least, and there are recorded instances of much longer use of particular sites. In the Perivale Sanctuary, Nuthatches have regularly annexed normal Tit nest-boxes until the boxes have disintegrated through old age.

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The Tree Creeper is another passerine bird that has adapted itself as an aboreal climber. It is interesting to observe that young Creepers do not immediately acquire the habit but attach themselves to the autumnal parties of Long-tailed and other Tits seeking a livelihood with similar agility among the leaves and boughs. This may be an instance of the young in their development recapitulating the evolution of the race and indicate that the climbing propensities of the Creeper are biologically of recent origin. Its only structural assets to a climbing mode of life are its tail, the feathers of which are stiffened and decurved, and its long claws. The size of its feet, usually referred to as a useful feature, is no guide for there are other passerine birds, such as Pipits, for instance, who possess unduly large feet and are not climbers.

To the majority, the Creeper is a little brown bird that is occasionally observed like an avian mouse ascending the trunks of trees in a series of short jerks, but a closer inspection will show that it is beautifully marked with a protective colouring of various shades of brown and buff with some markings of white, while its beak is long and scimitar-shaped. Young Creepers do not acquire this elongated curved beak for several weeks after they leave the nest, and do not commence to climb until it is fully developed.

The Creeper is indifferent to observation and proceeds upon its lawful occasions unperturbed by what is going on around it. It manages to mind its own business methodically and without fuss. When feeding, it flies to the base of a bole and then ascends in a series of short shuffling jerks more or less diagonally, first to one side and then to the other, and occasionally corkscrews around the trunk. When negotiating a bough it will proceed along the under-side. Although it will also descend down a tree-trunk it invariably performs this evolution tail down and in a series of short drops as if following the outlines



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of a stairway, a drop, a horizontal sideway movement, another drop, and so on. This also is its common means of access to its nest when it is built low down, the bird alighting on the tree-trunk well above the nesting crevice from whatever angle it may arrive and then jerkily working itself round and down to the opening. Frequent observation of nesting Tree Creepers indicates that the objection to flying straight to the nest is not induced by any desire for secrecy for it always carries out its domestic functions without concern however closely observed.

In climbing, it makes use of its stiff tail, the tip of which becomes abraded through constant pressure and rubbing against the bark, and being bent downwards at the extremity is admirably suited for following and taking advantage of the inequalities of the bark on trees and cracks in old garden walls which it will search diligently for spiders. Unlike the Woodpeckers and Nuthatch the beak is not used for hammering and chiselling but merely as a fine probe for extracting small insects. It seldom takes terrestrial insects, and although it concentrates on climbing the boles and larger boughs, proceeding from tree to tree by working upwards from the base and then flying off to alight on the next, it will sometimes, when near the top of a tree, hawk for passing insects like a Flycatcher. When it rests it selects a horizontal bough along which it perches with the beak tip resting against the bark and with tail depressed and used as a prop. It is often when thus seemingly asleep that it will suddenly pounce out upon some winged insect.

It is very quiet, seldom using its soft song, a 'see-see-see-see-see-pee,' tit-like in its general tone, while its call notes are a soft 'chip-chip' and a shriller 'tsit.' It sings at intervals throughout the year but more frequently during April, May, and June; its simple notes are usually overlooked in the medley of bird sounds during spring, while the winter song is thinner and even less noticeable.

It pairs early in May and the male indulges in a nuptial

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chasing of his mate in and out of the foliage, occasionally perching before her with outstretched wings and lowered head with beak-tip resting on the wood accompanied by a swaying of the body from side to side.

Nest building follows almost immediately, in which both sexes assist. Varying according to the type of cavity employed, the nest of pieces of bark mixed with moss grass, and wool, and lined with feathers, may be loosely or well woven together. The favourite positions are in a deep cleft or crevice in a substantial tree-trunk, a hole in a stump, a convenient cavity behind a thick ivy stem on tree or wall or in the thatch of a barn at any height from 3 to 30 feet from the ground. The nest illustrated, which we know to have been in use for over ten years, is only 3 feet from the ground and, as is commonly the case, has a rear exit where the cleft of the wood continues through the side of the tree behind an ivy stem.

Egg laying commences about the middle of May. Five to ten eggs may be laid and incubation, carried on by the hen alone, requires 13 days. The fledging period is a little longer. The hen broods closely and will peck at an intruding finger, and whenever flushed from the nest will invariably pause momentarily on the tree-trunk about a foot from the nest before flying away. She never goes far from the nest-site and will call plaintively until she returns to her charges, which frequently occurs long before an intruder is out of sight. We have watched a Creeper come and go while we were standing only 6 feet from its nest. Although the bird may slip off through the rear exit, this is never used as a means of ingress.

The usual practice is to rear one brood, but two are occasionally raised, the young being fed mainly upon foliage caterpillars and small winged and bark insects, both birds being equally industrious in feeding them.

Resident and sedentary, the Tree Creeper is evenly distributed throughout the country wherever woodlands and

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avenues of trees are available. It is tolerably common, but its unobtrusive habits and general quietness make it appear less common than it is. It will visit gardens, particularly those in wooded districts, and may be induced to nest there by the provision of suitable sites in the form of curved pieces of bark wired to tree-trunks and large boughs or by fixing up hollow lengths of bough in small forks of trees. Sometimes the bird will annex a small nest-box and prefers one covered with bark and with an entrance in the form of an oval crack rather than a circular hole. Such a box should be fixed as far as possible into a natural declivity beneath a bough that juts out horizontally from the main trunk.

## CHAPTER XVI

### THE SPOTTED FLYCATCHER

Order—*PASSERIFORMES*

Family—*MUSCICAPIDAE*      Genus—*Muscicapa*

Spotted Flycatcher (*Muscicapa striata striata*)

THAN the Spotted Flycatcher there is no summer migrant more trusting and more certain of returning to the garden to nest in the same position season after season, and the provision of a nesting-tray will provide the bird lover with an annual dividend out of all proportion to the trouble involved in making and erecting it. We have yet to find a small bird better qualified to introduce the gardener to the domestic affairs of birds in general. It is a species that claims our protection and in return displays an inspiring confidence.

Nowhere common, the Spotted Flycatcher is evenly and thinly dispersed over the country in areas of parkland, isolated trees near woodlands, and in leafy gardens from the middle of May until the middle of September. It is one of the latest of our migrants to arrive after wintering in Africa as far south as the Equator.

It is aptly described as a silvery-grey bird. Its name is a misnomer, for it is more striated than spotted, the crown and breast being noticeably streaked with brownish-grey. Its habit of adopting a sentinel-like stance upon an isolated perch, which has earned for it the sobriquet of 'Post Bird,' readily distinguishes it. It waits with an air of studied indifference for such winged insects as may pass within its field of view, upon which it darts with buoyant flight, describes an arc and returns to its perch. Occasionally it

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will swoop down near the long grass to drive out small winged invertebrates which it eagerly snaps up in flight. It will adopt one or two special observation posts, on a fence post, a protruding dead bough, or the corner of a porch or building, its aim being to have an isolated position whence it can easily see and strike at passing insects. Its darts at these are perfectly timed and unhurriedly executed. Thick foliage hampers it so that it prefers to haunt the edges of clearings or a row of trees bordering the highway, and its headquarters tree is almost invariably one that has several dead boughs.

It is a confiding creature and can be studied at close quarters with impunity and will build its nest close to and even on our dwellings. Situations in corners under porches, on beams in sheds and outhouses, on the horizontal bough of a wall-trained fruit-tree, in cavities in garden walls, all come alike to it as nesting-sites.

In the open country it prefers to place its small cup-shaped nest of moss and grass lined with hair and occasionally externally decorated with lichen and cobwebs on or just beneath a sheaf of brushy twigs on the trunk of oak or elm at any height from 8 to 15 feet from the ground. Some nests will be placed in a cleft of a tree or behind some ivy stems but as a general rule a more open situation is preferred. Owing to its preference for level platforms on which to build, it readily accepts the nesting-tray already described which may be affixed on a tree-trunk near some twiggy growth or inside an entrance porch or loggia. The tray illustrated in Plates 5 and 29 is fastened to an oak in our front garden, 12 feet from the ground and facing due south towards the house. The sidewalk of a busy road passes immediately alongside the north side of this tree, yet the birds carry on their domestic duties unconcerned by the continuous stream of pedestrian and vehicular traffic. This particular nest was constructed almost entirely of the male flowers of the oak woven together with cob-

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webs and hair and measured 4 inches in external diameter and  $2\frac{1}{4}$  inches in depth with a cup only an inch deep. It was completed in two days and was commenced within a week of the birds' arrival from the South. Sometimes other unusual nests will be encountered, some with linings of soft feathers, some without any lining at all, and some decorated externally with small pieces of paper. Cases have even been reported of the old nests of Chaffinches, Blackbirds, and Goldfinches having been utilized and lined with moss, grass, feathers, or hair to taste.

Four to six eggs are laid during the last week of May or the first week in June and incubation takes 12 or 13 days, the young being nest-bound for the same period of time. The cock does not incubate the eggs or cover the young but is most assiduous in his attentions on the female, feeding her frequently while she is brooding and passing food to her for the young should she be covering them when he arrives. He never stays long at the nest during such visits, in fact the transfer of food sometimes takes place so rapidly that the bird hardly pauses in its flight to and from the nest. Later both birds seek food for the young, but it is not their practice to return to the nest together, one is usually on the look-out for danger while the other is feeding the nestlings who keep the parents busy from daylight to dark. Based on the average number of visits made to the nest during different hours of the day, we calculate that the young are fed at least six hundred times daily. The parents never require to wander far afield for food, the pair illustrated were not seen to stray more than 20 yards from the oak, so numerous is small dipterous insect life in the vicinity of large trees and upon their leaves and bark.

The Spotted Flycatcher is strictly territorial in habit and maintains an aerial and arboreal territory covering an acre in area at the most when inhabiting woodland clearings, and even less when nesting near houses. In the Perivale Sanctuary, of which 19 acres are woodland, there

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are usually 12 to 15 pairs of Spotted Flycatchers every season and the area is evenly parcelled out between them except for some parts of the wood that are too dense for their requirements.

The bird has no claim as a vocalist. It seldom sings and such song as it possesses is a low and soft twittering, while its alarm notes, never very loud, consist of 'sit-chick' and 'whit,' the latter used more frequently when the nest is endangered and occasionally may become a 'to-whit' as the danger lessens. Singing ceases in June as soon as the young are hatched.

Our experience shows that the bird is not double-brooded, although this is claimed by some writers. Not infrequently a second nest will be built in the territory after an initial failure, and it is probably these late broods that have been looked upon as second broods. Having regard to the smallness of the territory occupied and the few nesting-sites available therein, the actual rearing of a second brood should it occur could readily be checked.

As soon as the young are strong on the wing parents and young leave the nesting area to wander quietly and aimlessly through the woodlands until the middle of September, when the migratory urge draws them to our southern or eastern coasts whence they depart for their winter quarters at the end of that month.

The owner of a garden sanctuary should take special precautions to prevent cats from climbing trees in which Flycatcher nesting-trays are placed, for the carefree way in which these birds nest renders them peculiarly liable to loss of eggs and young to predatory visitors.

## CHAPTER XVII

### THE STARLING

Order—*PASSERIFORMES*

Family—*STURNIDAE*      Genus—*Sturnus*

Starling      (*Sturnus vulgaris vulgaris*)

THE close affinity between the Starling and the Crows is shown by its short round body, width between the thighs, swaggering gait, chattering and harsh notes without any co-ordinated song, gregarious outside the breeding season, and, like attracting like, its autumnal and winter association with the nomadic flocks of Rooks and Jackdaws.

At a distance its colouring is Crow-like, but viewed at close quarters the bird is beautifully spangled with buff-tipped feathers on the upper parts and white-tipped feathers on the under-parts, enhanced all over by metallic reflections of green and purple. Personally we consider the cock in winter plumage to be handsomer than when in summer dress, for the spots are then more prominent. In spring and summer the male loses the spots on the underparts and those on the upper parts become clouded with darker tints through abrasion of the feathers; the female also loses some feather tips, but as her feathers are naturally more rounded her speckling is not depreciated to the same extent. She is at all times therefore more spotted than her mate. The immature Starling in its second summer is even more speckled than either.

We have already alluded to its feeding habits in Chapter II, but near houses it will supplement its natural fare with oatmeal, fat, and bread, and is, in fact, casually



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omnivorous. While during the breeding season its tastes are largely animal, during the autumn, winter, and early spring it commits considerable harm to cultivated crops, and, due to its inexplicable increase during the past fifty years, such damage has become a problem aggravated by the large influx of Continental-bred specimens that begin to arrive here towards the end of September and remain until late March or early April. Why the Starling should have so increased is not clear. While it is an adaptable bird, catholic in its choice of environment and equally at home in town or country, its powers of adjustment to circumstances are not alone sufficient to account for its increase. It would appear that some natural enemy of the bird has ceased, temporarily, to control its fecundity. Possibly the decrease in the numbers of Hawks to which the Starling, with its direct form of flight, falls an easy prey has operated in its favour.

It is to be noted that the Starling has developed a unique habit of laying its eggs in the open on lawns and pathways, which points to some form of weakness either induced physiologically through over-population or by a dearth of nesting facilities or an inherent inability to appropriate new sites.

The Starling is stated by many to be single-brooded, but our experience shows that two broods, both in the same nest, is now a frequent occurrence, and that three broods are not exceptional. It utilizes the same nesting-place season after season. One site in our roof and another in a cavity in a front-garden ash have been used for ten years and in each case at least two broods have been reared in these nests during each of the past six years. Moreover, the hole in the ash is coveted by more than two adults, the unattached birds having been observed in attendance even while the others are breeding, which points to an unwillingness on the part of some individuals to seek out and create new nesting-sites.

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Nesting usually commences in the middle of April, exceptionally during the last week of March, and young may be found still in the nest during August. As a rule, however, the fledglings are out and about in gregarious parties in the woodlands whither they resort by the end of June. Any form of crevice suffices for the nest, loosely built of straw and grass, with or without a lining of feathers. Spaces long utilized become filled with an accumulation of materials, on the top of which a slight depression for the eggs is formed annually. The average clutch of eggs number six and the incubation period is of 13 or 14 days' duration. The nestlings remain in the nest for about 20 days, although they are unquestionably capable of flight after the fifteenth day from hatching. Hence the frequent movement of young Starlings about a lofty roof. Both birds are said to incubate, but this is difficult to check. Both most certainly share in the rearing of the young. There is little attempt on the part of either parent to clear the nest of excreta, with the result that the interior becomes foul and insect parasites are frequent on the young. The young are fed exclusively on insects brought in the beak. Immediately they are capable of independent existence, young Starlings wander off to the nearest woodlands, passing in a noisy throng from tree to tree in search of caterpillars and, in late summer, these parties, amalgamating with the adults, form the large winter flocks that seek the open fields and hillsides and congregate nightly in thousands in communal roosts.

The Starling possesses the longest song period of any of our birds, only being out of song during parts of June and July. Its familiar vocal efforts comprise sustained throaty clickings and sizzling notes accompanied by raising of the crown feathers and an appearance of energy out of all proportion to the power produced. The song is never set but has a characteristic style, a pervading wheeziness. Some musical whistling notes are interspersed from time

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to time and individuals possess mimetic powers. One specimen in our garden incorporates a clear boyish whistle while another we have heard imitated the shrill yapping of a puppy. Other birds' calls and animal sounds are frequently rendered. The normal call note is a harsh 'churr' but a clear whistling 'tsoo-oo' is also employed. Ordinarily the alarm note is a harsh scream, but an angry 'chick chick-ik' may be used.

No question, of course, arises of adopting special measures to attract Starlings to gardens. They are ubiquitous but strangely common in some areas and sparse in others, probably due to an inherent social sense which still finds expression where conditions are favourable for nesting in small colonies. The bird will adopt a nesting-box quite readily and shows a preference for one having a small perch fixed outside just below and at right angles to the entrance hole. This should be 2 inches in diameter and the box should measure at least 8 inches square and 10 inches deep internally. A box placed under eaves is more acceptable than one placed against a flank wall in the open. Boxes placed high up in trees or even on poles will also be annexed.

## CHAPTER XVIII

### THE DOVES

Order—COLUMBIFORMES

Family—COLUMBIDAE      Genus—*Columba*

Wood Pigeon    (*Columba palumbus palumbus*)

Genus—*Streptopelia*

Turtle Dove    (*Streptopelia turtur turtur*)

WE are not rich in species of Pigeons and Doves. The Wood Pigeon or Ring Dove, the Stock Dove, and the Blue Rock Pigeon or Rock Dove, comprise our resident species and the Turtle Dove our migrant visiting species. The names Dove and Pigeon are used in this country interchangeably, but strictly speaking the true Doves are smaller birds than the Pigeons. Of our four species, only the Ring Dove and the Turtle Dove are common garden visitors, although the Stock Dove will breed in cultivated areas where large forest trees abound.

The Ring Dove is clearly identifiable by its large size, the patch of white on each side of the neck, and the absence of any black bar on the wing. The hen is duller than the cock in the vinous tints of her breast. Although the Ring Dove is a frequent visitor to and resident in our towns and urban parks, it has had no influence in the formation of the semi-domesticated town pigeons, all of which trace their ancestry to the wild Blue Rock Pigeon which is a denizen of sea-shore cliffs. The familiar Wood Pigeon remains pure and undomesticated and is too wary of man to countenance taming. Its presence in towns is dictated by greed and ease of living and not by any love of human

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society. It has increased enormously of late years despite well-merited persecution from farmers and, in autumn, its numbers are substantially augmented by immigrants from the Continent. At this season it becomes gregarious for convenience, and large concourses of Wood Pigeons roam the countryside throughout the late autumn and the winter, only breaking up late in February with the onset of the breeding season. This commences as early as March and continues well into September, and three broods of two young each may be raised each season. The simple twiggy platform that serves as a nest is usually placed high up in some large tree, but may be sited quite low down in a blackthorn thicket. It is normally placed towards the end of a bough and herein differs from that of the Stock Dove, whose nest is invariably placed close to the 'stock' or trunk of a tree.

Both birds share the duties of incubation which lasts from 18 to 20 days. A like period elapses before the young are ready to leave the nest. They are fed from the parents' crops, not by complete regurgitation but by they themselves, inserting their beaks within the adults' throats into which the mash of crushed seeds, grain, and green stuff is ejected by the latter in a half-digested state. The young 'squab' pigeon is naked for 9 days, but thereafter it feathers rapidly and towards the end of its fledging period greets an intruder with a peculiar grunting note.

Although we have watched many nests, we have yet to see both parents at the nest together. The small area available probably precludes this, and when the female is covering the young she will slip away quietly just prior to the arrival of the male and vice versa. It is the male that generally assumes the daylight office of incubation. The bird makes no attempt at secrecy when nesting, flying directly to the site and alighting quite close to it. In point of fact, although arboreal in habit, the Ring Dove is a clumsy performer when alighting or moving about among

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the foliage, hence it prefers a more or less unrestricted approach to its nest.

A new nest is built for each brood, but a previous season's nest may sometimes be renovated and used the following season. Apart from the familiar 'billing and cooing' with bowing action and distended throat, there is a flight display consisting of a rapid circling with loud clapping of wings around the tree in which the hen is perched.

The call note of this species is too well known to need detailed description, but many confuse its calls with those of the Turtle Dove, referring quite indiscriminately to the 'cooing' of Doves. Actually the call of the latter is very well represented by its specific name 'turtur' if spoken slowly and deliberately, whereas the Wood Pigeon utters a 'coo-roo coo-coo.' The Turtle Dove murmurs, the Wood Pigeon coos, and the former calls for longer periods.

For the reasons previously cited, this species should not be encouraged to breed in a garden sanctuary.

The Turtle Dove is much smaller than the Wood Pigeon, being only 12 inches long to the other's 17 inches. It is also more graceful and variegated in colouring.

It does not arrive in this country from its winter quarters in Asia Minor, Persia, Palestine, and the countries bordering the Red Sea and Mediterranean until the last week in April or the first week in May. It is well distributed over our southern counties, scarcer in the midlands and the south-west and becoming rare towards the north, and chooses districts where small coppices and open woodlands are available. It appears happiest in clumps of silver birch, young oak, and hawthorns, surrounded by scrub of bramble and briar and eschews the centres of large or dense woodlands. Being particularly fond of the seeds of corn spurrey and all forms of vetch, it haunts the edges of woods bordering cornfields, but while its main fare is undoubtedly the seeds of weeds, like any other Pigeon it



Plate 30.

WOOD PIGEON ON NEST (*Ickenham*)

[p. 166.]



Plate 31.

TAWNY OWLS IN NEST BOX (*Perisoreus*)

(p. 167.)



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will take grain, though never to the extent or with the avidity of the Wood Pigeon. On the whole, it is useful to horticulture and merits protection.

Swift and direct in flight it sets its course and never appears to deviate, progressing with surprising velocity. As it alights the tail is fanned, displaying the broad band of white at the tip, and as the tail in this species is proportionately longer than in the others of the family, it is a noticeable feature in flight and when alighting.

In its courtship display it fans its tail and appears to consider this a special attraction to the opposite sex. The usual bowing with distended throat, accompanied by a low, tremulous, murmured cooing, is also indulged in, but a form of flight display is infrequent.

Nesting commences towards the end of May, the nest being a meagre platform of twigs and placed as a general rule at no greater height than 15 feet from the ground. Sometimes it is only 5 or 6 feet up and may even be built in brambles and honeysuckles. Almost any form of cover suffices, blackthorns being preferred, with silver birches and larches slightly less attractive. Two eggs only are laid and the bird is normally only single-brooded. Late broods are encountered, but these are more often than not second attempts after loss or desertion of the first nest. This species is peculiarly inclined to desert its eggs if disturbed while incubating, and it is as well to treat it with circumspection until the young are hatched, when it seems to become quite confiding.

Incubation is of the order of 15 days, and both birds brood eggs and young, who are fed in the usual pigeon fashion upon partially macerated and pulped seeds.

Young and old leave this country together in small parties towards the end of September, working their way southwards from their breeding haunts during the first half of that month, but individuals have been noted as remaining here until the end of October.

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While the Wood Pigeon, despite its natural wariness, will nest in towns if allowed—in the Metropolis it even nests in the plane trees bordering busy streets—the Turtle Dove is not so inclined to seek the safety from natural enemies which is inherent around man's dwellings. This does not arise from any distrust of man, but is merely the consequence of the bird not requiring protection and therefore not seeking it. Yet, where conditions are suitable and the surroundings of the type it prefers, the Turtle Dove will just as readily nest within the boundaries of a large garden as elsewhere. Cats must be watched and guarded against owing to the bird's habit of deserting its eggs at the least disturbance, for these marauders easily discover the nest owing to its open position and the conspicuous size of the brooding bird.

## CHAPTER XIX

### THE CUCKOO

Order—*CUCULIFORMES*

Family—*CUCULIDAE*    Genus—*Cuculus*

Cuckoo    (*Cuculus canorus canorus*)

As our only parasitic and polyandrous bird the Cuckoo has always been a creature of mystery and legend. How its egg is introduced into the nests of its dupes has long been a matter for argument, while legend has it that it changes to a Hawk in winter or hibernates in mud or a hollow bough whence it re-appears in spring none the worse for its incarceration. In appearance it is decidedly hawk-like and small birds appear to associate it with other predatory birds in that they mob it in the same manner as they pester Owls abroad in daylight. Yet this is not an expression of their distaste for its parasitism, for the species it chooses as its dupes adopt an excessively maternal and possessive attitude towards the interloper that murders their offspring. A fledgling Cuckoo will be fed by other small birds, for its ceaseless lamentations for food appear to possess hypnotic powers that command attention from others than its actual foster-parents. That the young Cuckoo should be regarded with infatuation and not apprehension is a strange twist of Nature. The species that mob the Cuckoo are not, however, those it normally victimizes.

Being the only bird in this country that devours the hairy types of caterpillar and considering that none of its foster-parents provide the nestling Cuckoo with such fare

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yet rear it safely, it is conceivable that parasitism arises through some instinctive omission to feed its young aright. The habit has produced an extraordinary expression of the migratory instinct in that young Cuckoos leave our shores nearly a month after the adults and unaided by parental example succeed in reaching the African winter quarters of their elders.

Arriving about the second week in April—any reports of arrivals before the first of that month should be treated with reserve—the males preceding the females, the Cuckoos are strictly territorial in the sense that they restrict themselves to defined tracts of land as feeding areas, but not necessarily to the exclusion of others of the species for mating purposes, for wherever a female has settled there will the males from time to time foregather, mutually antagonistic but all equally interested in her movements. Although polyandrous, one observes no reversal of the usual practice that it is the male who seeks out the female with whom to mate. Around our garden we generally have three males to every one female, but we do not suggest that this ratio is universal. Unless one hears all the birds calling simultaneously a census is difficult even in quite a small area.

The disyllabic 'coo-hoo' sometimes varied by a 'coo-coo-coohoo' is of course the call of the male, the female only indulging in a water-bubbling call. On arrival the male calls incessantly by day and frequently by night, while the female is silent until ready to mate. Should the male espy a female he will utter a hurried laughing 'hoo-hoo-hoo' ending abruptly in a strangled fashion. The male will sometimes call as it flies, and although the flight is swift and direct in ordinary circumstances it becomes wavering, ending in a soaring on outstretched wings, as it approaches the tree in which the hen may be. There is a peculiar clumsiness in the act of alighting, the bird arresting its movement by the use of wings outspread followed by a

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bowing of the whole body forward and a flirting upwards of the tail. Rival males fight and chase each other in mid-air, wheeling and calling as they dash between the trees, the victor finally alighting near the hen to bow, distend his throat, and call with added impetus.

Egg laying commences in mid-May and continues throughout June and each female lays at least twelve eggs at 48 hour intervals, subject to suitable nests being available. It has been said that the eggs or young in a nest may be destroyed by the hen Cuckoo to induce small birds to start nesting again and so provide the necessary depositories, but unless the victims are territorial in their habits there can be no certainty that they will re-nest in the same area. The Cuckoo certainly watches the prospective fosterers while they build and ordinarily does not deposit its egg in a nest until two eggs at least have been laid by the dupe. Occasionally the Cuckoo's egg must have been deposited after a clutch has been completed, otherwise a young Cuckoo would seldom have to deal with young nestlings hatched before it for the incubation period of the Cuckoo's egg is 12 or 13 days, like that of eggs of most small birds chosen as dupes. While as a general rule only one egg is deposited in each nest, cases of two eggs are not infrequent. This probably arises in nests situated on the fringes of two overlapping territories and are thus the work of two Cuckoos.

It was long thought that the Cuckoo laid its egg on the ground near the chosen nest and then picked it up in its beak and placed it therein, at the same time removing one of the dupe's eggs which it either consumed or dropped as it flew away. The Cuckoo's egg is small—similar in size to the egg of a Skylark—so such a proceeding is conceivable. It has been proved, however, that the Cuckoo actually sits on the chosen nest in the normal fashion or, where the nest is in a crevice, or overhung, or of a domed shape, ejects the egg into it. If it fails in this act, no effort

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is made to pick the egg up and place it inside, which fact most surely disposes of the former theory. The Cuckoo waits until the prospective foster-parents are away feeding for it prefers to keep its visit secret, hence the removal of one egg to counterbalance the addition. With the disparity in size and colouring between the Cuckoo's egg and their own, it is difficult to understand why small birds fail to notice the substitution. A Cuckoo's egg that resembles those of the chosen host is an exception in this country, the majority conform to the general type, having small brown speckles on a greenish or greyish-white ground. It appears that an individual Cuckoo will employ the same species as host each season, one concentrating on Hedge Warblers, another on Meadow Pipits, and so on. Hence Cuckoos as individuals adhere to one type of environment, but collectively are found in all kinds of country; woodland, moor, common, and hillside. As at least fifty species of British bird are employed as foster-parents, Cuckoos become widely dispersed.

Although naked and blind when hatched, the young Cuckoo is strangely active despite a short incubation period, and within the first four days of its free existence will contrive to eject the eggs or young from the nest. It is provided with a hollow in its back of peculiar sensitiveness. Anything touching this causes extreme energy and annoyance on the part of the Cuckoo who, by stretching its legs and using its wing members, manages, by dint of much exhausting effort, to hoist the egg or nestling on to its own back and finally over the edge of the nest. After each such disposal the young Cuckoo sinks to the bottom of the nest in an apparently helpless condition. But immediately another egg or nestling touches it on its back, the bird becomes again endowed with extraordinary vitality to repeat the process of elimination until it has the nest to itself. Meanwhile the foster-parents take no apparent notice of this murder of the innocents. The young

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Cuckoo grows apace and is soon too big for the nest and the foster-parents have to stand on its back to feed it. It remains in the nest for about three weeks, the period of development being largely dependent upon the quality and quantity of food provided by its foster-parents, the choice and amount varying with the species. After leaving the nest, the young Cuckoo repairs to a convenient perch, usually the top of a boundary post, whence it noisily and ceaselessly clamours for food and will be obediently satisfied not only by its foster-parents but sometimes by other small birds then rearing young, who seem unable to resist its wheezy call and supplicating attitude.

Such is a very brief outline of the history of the Cuckoo. Space forbids further discussion of other interesting facts relating to its parasitism and general habits.

Only limited by its preference for fairly open country, the Cuckoo will visit large gardens near its territory and will deposit its eggs as readily in the nests of garden birds at a distance from a house as in nests in the countryside. As it normally finds nests visually and not by inference and is not terrestrial in its habits, the nests adopted are not near actual buildings, hence the nests of Hedge Warblers, Blackcaps, Garden Warblers, Wagtails, and Whitethroats on the outer fringes of large gardens or in their boundary hedges are victimized the most.

## CHAPTER XX

### THE TAWNY OWL

Order—STRIGIFORMES

Family—STRIGIDAE

Genus—*Strix*

British Tawny Owl (*Strix aluco sylvatica*)

THE British Tawny Owl is a strictly sedentary species and the most frequent Owl visitor to large gardens near woodlands and to public parks where its sudden and unexpected hooting startles many an evening stroller. It is interesting for its dimorphism, or more correctly dichromatism, for there are two distinct forms, the brown and the grey. The former is the commoner, hence the popular name of Brown Owl. These forms are independent of sex and indiscriminate in their mating. The name Brown Owl is nevertheless misleading, for the Little Owl and the Short-eared and Long-eared Owls are also brown. The other cognomen of Wood Owl is on surer ground, for it is definitely our only Owl exclusively haunting deciduous woodlands, the Long-eared Owl preferring coniferous forests.

Although nocturnal, the Wood Owl does not roost under cover during the daytime but usually rests perched on a bough of a large tree, an isolated conifer for preference, but elms and chestnuts are also chosen, and a pair of these birds will sit side by side right up against the main trunk. While small birds appear to disregard Wood Owls when in their diurnal roost, any daylight encounter with them away from their usual position will be greeted by noisy scoldings of Blackbirds, Chaffinches, Titmice, Wrens, and others,



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who quickly congregate and mob the intruders, until the Owls disturbed by the clamour depart to the peace of their usual perch. If seen in flight in daytime, the Wood Owl can be distinguished from the Little Owl by its large size and from the other Owls by its large head and broad rounded wings. The flight is wavering and noiseless and the bird hovers frequently.

It seldom commences to hunt before dusk and will continue until daylight, although its main feeding periods are two nightly, the remainder of the time being spent in digesting its prey—a necessary precaution observing that rats, mice, and voles, are swallowed whole, head first. The undigested portions, fur, bone, and the like, are regurgitated by Owls in the form of 'pellets' which vary in size and appearance according to the species and, intra-species, according to the nature of the food consumed. The horny outer cases of coleoptera and other insects form a smaller pellet than the mammalian remains. The pellets cast by the Tawny Owl are greyish in colour and very friable, about 2 inches long and 1 inch wide, while those of the familiar Barn Owl are slightly smaller, almost black in colour, and singularly shiny as if they had been dipped in varnish. Two ejections daily is the usual rule, one being dropped at the diurnal roost, where a collection soon forms on the ground, and the second at some other set place within the hunting area where the bird invariably pauses.

The Tawny Owl is strictly territorial and most pertinacious and jealous of its feeding and breeding areas. For nesting, a hole in a large tree is usually chosen, but occasionally an old nest of a Rook, Carrion Crow, or Sparrow Hawk, or even the drey of a Squirrel, Red or Grey, will be utilized. No attempt at nest making is involved, for the pure white eggs are laid direct on to the existing base. The Tawny Owl will annex a large nesting-box more readily than any other of our Owls.

The normal clutch of eggs ranges from three to five, but

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sometimes two or even only one will be produced. As the eggs are laid at not less than 48-hour intervals and as incubation commences immediately after the first is laid, there is a considerable difference in size between the developing youngsters in a large brood. In small broods, up to three in number, they soon level up. With a very large brood—seven is the infrequent maximum—the disparity is most marked and remains fairly constant. When the larger nestlings can fly, the cock attends to them, while the hen continues the rearing of the smaller, and when all are fledged and capable of independent existence they are ruthlessly driven away by the parents so that the feeding territory shall not become overcrowded. Only one brood is reared annually. Breeding commences late in March, exceptionally at the end of February. The juveniles in their soft plumage with horizontal barrings of brown and grey are unlike other Owls. They attain full adult plumage during their first winter, moulting commencing in September or October.

The Tawny Owl uses the familiar hoot, 'whoo-whoo,' which is occasionally repeated three times, and varied by a sharp, staccato 'kee-wick.' This is sometimes interspersed between hoots, and as a final effort the hoot may be rendered as a long-drawn-out and eerie 'whoo-oo-oo-oo-oo.'

The Tawny Owl's diet consists mainly of small animals : long-tailed field mice, house mice, wood mice, shrews, bank voles, brown rats, stoats, weasels, and sometimes grey squirrels. While it does not find many rats in woodlands, near houses it will seek them out as efficiently as does the Barn Owl around a farmyard. Birds also are taken, both adults on the wing and fledglings from nests, but the bird definitely prefers fur to feather. Smaller fry in the shape of beetles and worms are not despised, but worms are not looked for so zealously as in the case of the Little Owl.

Every farmer or horticulturist who fails to protect the

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Tawny Owl and the Barn Owl is doing himself and the community a grave disservice. It has been rightly stated that every Owl nailed on a barn door means one sack of grain the less. These birds are of undeniable and outstanding utility, and at long last the claims of ornithologists backed by the incontrovertible evidence of pellets are receiving proper consideration. Were it not for the selfishness of game preservers in destroying our nocturnal and diurnal birds of prey under the impression that they attack game birds and consume their eggs or young, our Owls would be more plentiful and our rodents less invasive. That our country should suffer an annual loss, computed by authority at not less than five million pounds, through rodent depredations because a few individuals for their private pleasure direct the killing of such useful birds is one of the penalties resulting from our failure to treat all our birds as national assets and legislating accordingly.

Farmers are shortsighted, too, in that they destroy Owls that venture near hen-coops in search of the rodents that are attracted by the grain.

Our existing Wild Birds Protection Acts are of little use. They are negative in substance and more honoured in the breach than in the observance. Their penal provisions and limitations on search make the taking of rare birds and their eggs a profitable business.

Until bird protection is active and dealt with on a national scale, it devolves upon those individuals, who appreciate the need and can supply the means, to remedy the defect. In this book we have tried to explain how owners of suitable gardens and woodlands can create and maintain small and efficient sanctuaries for our wild birds, and by so doing add to the nation's wealth and their own happiness.

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